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Financing upstream oil and gas ventures in the transitional economies of the former Soviet Union a study of foreign investment and associated risks

Seck, Andrew Benjamin

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THESIS
1997

**FINANCING UPSTREAM OIL AND GAS VENTURES
IN THE TRANSITIONAL ECONOMIES
OF THE FORMER SOVIET UNION:
A STUDY OF FOREIGN INVESTMENT
AND ASSOCIATED RISKS
(VOLUME II - APPENDIX)**

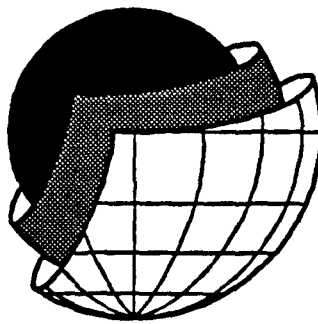
By

Andrew Benjamin Seck

August 1997

Ph.D. Resources Law and Policy

Centre for Energy, Petroleum and Mineral Law and Policy



DECLARATION

I, Andrew Benjamin Seck, am the author of this thesis and hereby declare that unless otherwise stated, all references cited have been consulted by the author, that the work of which the thesis is a record has been done by myself, and that the thesis has not been previously accepted for a higher degree.

Signature: ; Date: 27 October 1997.

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Appendix A. Foreign Oil & Gas Investment (FOGI) Database

Appendix A.1 FOGI Database: Overview

Philosophy

The *Foreign Oil and Gas Investment (FOGI) Database* was developed by the author as means of recording and tracking the growth of oil and gas sector projects involving foreign investors within the FSU. The FOGI Database is an integral part of this thesis contributing to its originality. While comparable databases are in existence each exhibit weaknesses which this database seeks to address. As far as we are aware the two primary alternatives are the *Foreign Scouting Service* published by Petroconsultants and the *US/Foreign Energy Ventures in FSU/EE Reports* published by the US Department of Energy. The former is strictly a commercial service whose price puts it beyond the means of an academic researcher and although the latter is available to the public upon request, this service will be discontinued as of September 1996 by the US Department of Energy due to budgetary cutbacks.¹ Irrespective of the price differential our general criticism is that neither are provided in computer format. Undoubtedly many people still prefer to work with print-outs as opposed to computer screens, but the latter does provide advantages. The efficient tracking of investment projects requires a medium which permits easy updating and facilitates cross-checking along the lines of various investment criteria. Obvious examples would be by company name, country, geological region, contract form (e.g. Joint Venture, PSA etc.). This can only be achieved if projects are recorded according to multiplicity of investment criteria on a computer spreadsheet or relational database. While the *Foreign Scouting Service* and *US/Foreign Energy Ventures in the FSU/EE* are presented in a tabulated hard-copy format, their categorisation is insufficient for the user to easily carry-out a comparative analysis. The former only uses 6 categories² and the latter only 3³,

¹ Dino Pappas, its author, intends to privatise this service upon his retirement in the autumn of 1996.

² Petroconsultants utilises the following six categories: Name of JV, Partners; Contract Type, Registration Date, Duration; Project (Field, Reserves, Type of Activity); Investments, Commitments (Financed by); Contract Terms (Cost oil, Split, Taxation, Exemption); and Production/Export.

³ US Department of Energy uses only the following three categories: Company; Location; and Remarks.

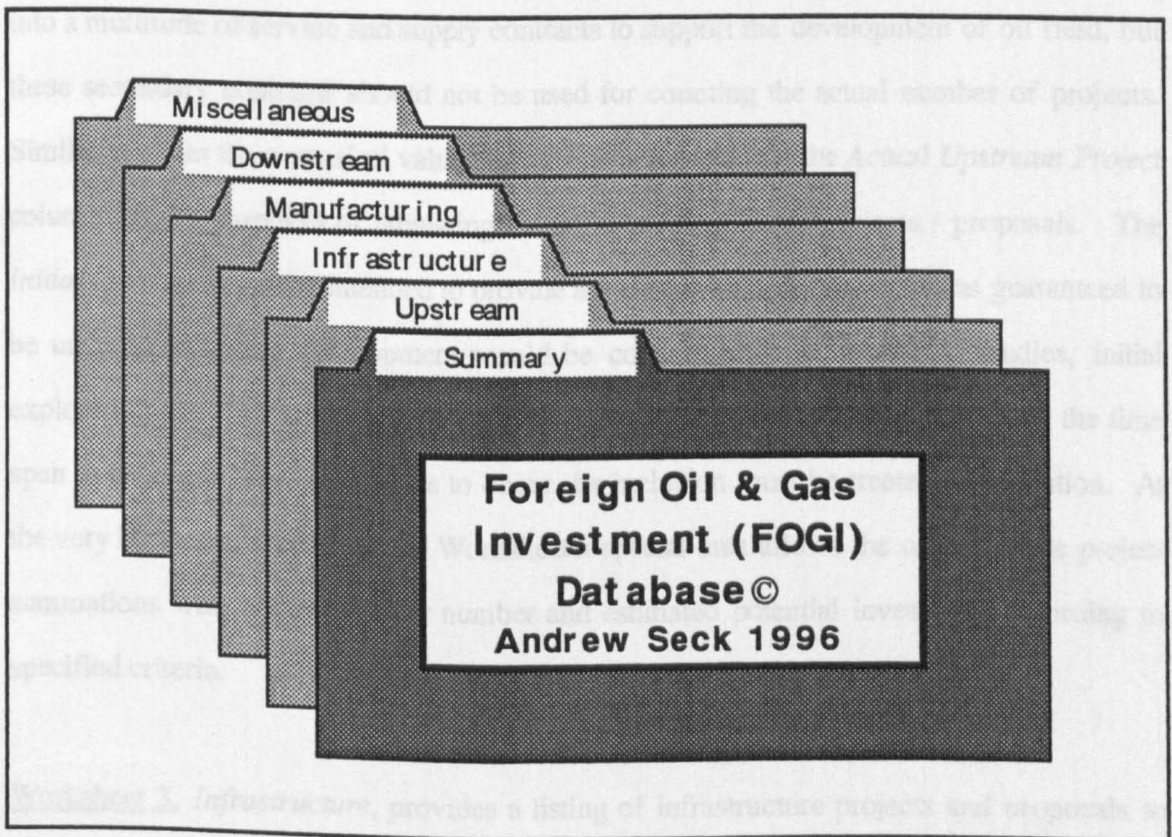
compared to our 35 categories in the case of upstream projects. Unless the data is broken-down into its most fundamental units comparative analysis using specified criteria in a spreadsheet type format cannot be carried-out. The FOGI Database seeks to address this problem in order to examine the vast number of investment projects and proposals involving foreign investors in the FSU's petroleum industry.

Data Source

For data we have relied upon company annual reports and a wide variety of secondary sources. Any reliance on press reporting obviously carries some risk — inevitable discrepancies and lacunae always exist. But while the lack of consistent and reliable information is a weakness it is also an unavoidable consequence of any contemporary study of the FSU. In this sense the FOGI Database is our contribution to help redress the situation. In cases of reporting inconsistencies we have used our best judgement by cross-checking as many sources as possible, including direct contact with the companies themselves in certain cases, or by disregarding a suspect report altogether. The principal trade press which we consulted were Interfax Petroleum Report, Petroleum Intelligence Weekly, Russian Petroleum Investor, Nefte Compass, East European Energy Report, and US/Foreign Energy Ventures in the FSU/EE. A further advantage of the computer spreadsheet format is that it allows the user to build-up a more comprehensive understanding of a given project over time from incomplete reporting. For example, it is often the case that not all partners in a project are listed in a given report, yet other key information is known. By having our data stored in a spreadsheet it is possible to cross-check all other projects before updating our database. This method seeks to avoid double counting of individual projects and will not fall foul of subsequent change of investors. Just because one investor leaves and another arrives does not mean that a new project has started. Yet in the trade press the history of an individual project is rarely covered in full detail. This caveat is very relevant for small projects which commonly undergo a host of farm-ins and acquisitions but appears to be less of a concern for the well known mega-projects.

Structure

We constructed our database using Microsoft EXCEL version 5.0 because of its widespread use. While the FOGI Database began as one all encompassing spreadsheet, it was soon realised that the ideal categorisation of upstream projects would not necessarily be the same for downstream projects, nor infrastructure projects. Furthermore, as the spreadsheet got larger it increasingly ran much slower. For these reasons we split the data file into 6 worksheets within the one file: *Upstream Summary*; *Upstream*; *Infrastructure*; *Manufacturing*; *Downstream*; and *Miscellaneous*.



While a hard copy of all worksheets is reproduced herein for completeness the focus of our study is predominantly based on the information contained in the first three worksheets.

Worksheet 1, Summary, provides the tabulation and summation of upstream projects according to countries and regions. The first table, *By Category*, is automatically updated as new information is entered into the Worksheet 2, *Upstream*. Whereas the second, third

and forth tables (*By Country, By Geopolitical Region* and *By Other Geographical Regions* respectively) needs to be periodically updated manually by using the search criteria range found at the very bottom of the Worksheet 2.

Worksheet 2, *Upstream*, contains all reported upstream projects involving foreign investors in the FSU. The 35 categories (i.e. columns) are self explanatory with the exception of *Contract Level, Actual Upstream Project* and *Initial Cost*. Under *Contract Level* either a 1ST or a 2ND is recorded. This distinguishes between an actual upstream project and secondary contracts associated with the same upstream project. Project sponsors will enter into a multitude of service and supply contracts to support the development of oil field, but these secondary contracts should not be used for counting the actual number of projects. Similarly, either the numerical value zero or one is entered into the *Actual Upstream Project* column for the purposes of tabulating the number of upstream projects / proposals. The *Initial Cost* column was intended to provide a measure of initial expenditures guaranteed to be undertaken before development would be considered (e.g. feasibility studies, initial exploration etc.). However, given the lack of data in addition to the uncertainty of the time span over which expenditures are to occur, its inclusion must be treated with caution. At the very bottom of the *Upstream* Worksheet a special area allows the user to make project summations with respect to their number and estimated potential investment according to specified criteria.

Worksheet 3, *Infrastructure*, provides a listing of infrastructure projects and proposals to support the export of oil and gas from the FSU.

For each Data Worksheet the built in *Find Command* under the *Edit Menu* can be used to search the database according to a specific word. Similarly the *Filter Command* under the *Data Menu* allows the user to list only those projects which meet the specified column criteria. This is particularly useful for printing purposes. For further information on these

an other useful commands the reader should consult an EXCEL manual or the built-in *Help Command*.

The remainder of Appendix A provides a hard copy of the FOGI Database which has been updated as of mid-August 1996.

Appendix A.2 FOGI Database: Upstream

By Category

Type of Project	Number Proposals	Number Projects	% Specific Project vs. Proposal
Development	153	141	92%
Exploration & Development	91	75	82%
Exploration	31	21	68%
Subtotal	275	237	86%
Workovers	29	23	79%
Rehabilitation	19	19	100%
Enhanced Oil Recovery	13	13	100%
Subtotal	61	55	90%
Subtotal	336	292	87%
Geophysics	20	N/A	N/A
Service and Supply	97	N/A	N/A
Subtotal	117	N/A	N/A
Total Upstream	453	N/A	N/A

Proposals represent protocols, memorandum of understanding or expression of intent to cooperate, *which do not specify a particular field or project* . Many government level agreements are worded as such. Our analysis of foreign investment focuses on the *Number of Projects Column* where at least a specific field or deposit has been identified. This chart does not make the distinction of whether the project is operational or not.

By Country

Country	Classic Upstream			Subtotal	Rehab/EOR Wkover	Total	Potential Investment		Average (\$ per Capita)	Population (Millions)
	Expl	E&D	Dev				Low (\$ MM)	High		
Armenia	1	0	0	1	0	1	\$15	\$15	\$4	3.7
Azerbaijan	1	7	12	20	6	26	\$16,200	\$17,405	\$2,240	7.5
Belarus	0	0	0	0	0	0	\$0	\$0	\$0	10.4
Estonia	0	0	0	0	0	0	\$0	\$0	\$0	1.5
Georgia	0	5	2	7	0	7	\$78	\$103	\$17	5.4
Kazakhstan	7	15	21	43	6	49	\$36,336	\$55,258	\$2,776	16.5
Kyrgyzstan	0	5	0	5	2	7	\$70	\$120	\$21	4.5
Latvia	0	1	0	1	0	1	\$500	\$1,000	\$300	2.5
Lithuania	1	1	1	3	0	3	\$135	\$135	\$36	3.7
Moldova	0	1	0	1	0	1	\$100	\$150	\$29	4.3
Russia	8	30	92	130	38	168	\$175,092	\$230,444	\$1,369	148.1
Tajikistan	0	0	0	0	0	0	\$0	\$0	\$0	5.8
Turkmenistan	2	8	1	11	2	13	\$630	\$730	\$174	3.9
Ukraine	1	1	7	9	1	10	\$454	\$469	\$9	51.3
Uzbekistan	0	1	5	6	0	6	\$1,763	\$1,763	\$76	22.5
Total	21	75	141	237	55	292	\$231,373	\$307,592	\$924	291.6

By Geopolitical Regions

Geopolitical Region	Classic Upstream			Subtotal	Rehab/EOR Wkover	Total	Potential Investment		Average (\$ per Capita)	Population (Millions)
	Expl	E&D	Dev				Low (\$ MM)	High		
Baltic States	1	2	1	4	0	4	\$635	\$1,135	\$115	7.7
Central Asia	9	29	27	65	10	75	\$36,799	\$57,671	\$909	53.2
Russia	8	30	92	130	38	168	\$175,092	\$230,444	\$1,369	148.1
Transcaucasus	2	12	14	28	6	34	\$16,293	\$17,523	\$1,019	16.6
Western CIS	1	2	7	10	1	11	\$554	\$619	\$9	66.0
Total	21	75	141	237	55	292	\$231,373	\$307,592	\$924	291.6

By Other Geographic Regions

Geographical Region	Classic Upstream			Subtotal	Rehab/EOR Wkover	Total	Potential Investment	
	Expl	E&D	Dev				Low (\$ MM)	High
Caspian Sea	4	7	4	15	3	18	\$15,610	\$16,757
Western Siberia	1	5	37	43	27	70	\$36,868	\$57,145
Volga-Urals	1	6	10	17	3	20	\$6,760	\$8,805
Russian Far East	1	4	3	8	0	8	\$21,279	\$24,879
Timan-Pechora	0	3	20	23	1	24	\$19,201	\$28,901

Correlation of Potential Investment with Oil Production and Reserves

Country	Potential Investment		Average (\$MM)	Prod. 1994 ¹ (bopd)	Res. 1991 ² (MMt)
	Low (\$ MM)	High			
Armenia	\$15	\$15	\$15	0	0
Azerbaijan	\$16,200	\$17,405	\$16,803	192,100	470
Belarus	\$0	\$0	\$0	39,800	94
Estonia	\$0	\$0	\$0	0	0
Georgia	\$78	\$103	\$91	1,800	23
Kazakhstan	\$36,336	\$55,258	\$45,797	413,600	2,137
Kyrgyzstan	\$70	\$120	\$95	1,600	23
Latvia	\$500	\$1,000	\$750	0	0
Lithuania	\$135	\$135	\$135	2,900	2
Moldova	\$100	\$150	\$125	0	0
Russia	\$175,092	\$230,444	\$202,768	6,369,000	20,255
Tajikistan	\$0	\$0	\$0	600	5
Turkmenistan	\$630	\$730	\$680	82,600	210
Ukraine	\$454	\$469	\$462	86,900	164
Uzbekistan	\$1,763	\$1,763	\$1,763	115,500	117
Total	\$231,373	\$307,592	\$269,483	7,306,400	23,500

Correlation of Average Potential Investment with Oil Production = 0.98563

Correlation of Average Potential Investment with Oil Reserves = 0.99131

Sources:

¹ David Knapp, "Non-OPEC oil supply continues to grow," *Oil & Gas Journal*, 25 Dec. 1995, p 55.

² Alexander A. Arbatov, "The Former Soviet Union Energy Supply and Demand and the Future Role of Russia as an Oil Supplier," Photocopy, N.d.

FOGI Database: Upstream Summary

UpSumm.3

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country	Host Geological or Geographical Region	Host Political Region	Host Location	Name of Project/JV	Charter Capital (\$US MM)	Contract Form	Date Signed or JV Registered	Status	Form-in	Form-in Notes	Project Description	O & G NG	Sector	Type	Contract Level	Acacia Upstream Project	Contract Duration (Yrs)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Natural Gas Reserves (Bcm)	Acreage (Sq. Km)	Initial Investment (\$US MM)	Total Investment Low Estimate (\$US MM)	Total Investment High Estimate (\$US MM)	Financing Notes	Contract Notes #1	Contract Notes #2	Production Notes	Export Notes		
Abacom		N/A	Turkmenistan Ministry of Oil and Gas	Turkmenistan	West Turkmenistan Basin	Balkan Oblast	Kohut-Tepe Field	Kohut-Tepe Workovers	N/A	Service Contract	*1996	Reported Negotiating	N/A	N/A	Abacom is negotiating to carry out workovers on the Kohut-Tepe Oil and Gas Condensate Field	O&G	Up	Workover	1ST	1															
Adams Pearson Associates Inc	Canada	N/A	Uzbekneftegaz	Kazakhstan	South Mangyshlak Basin	Mangystau Oblast	Uzen Oil Field	Uzen Oil Field Rehabilitation	N/A	Service Contract			N/A	N/A	WB contracted Adams to Assess the Uzen oil field, i.e. remaining reserves and further development requirements including workover. So far Uzen has produced nearly 2 Bn bbls	O	Up	Rehab	1ST	1		N/A	N/A	N/A	N/A		220.00		220.00		World Bank providing the financing for the FS. 2 Jul '96 reported that WB will provide a \$109 MM loan for the project.				
Addison & Baxter Ltd.	UK	Newport Pagnell(UK)	Caspianneftegas	Azerbaijan	Caspian Sea	Caspian Sea	Caspian Sea		N/A	Service Contract		Under discussion	N/A	N/A	Upgrading and operating seismic survey vessels for use in 2D and 3D shallow water surveys	O&G	Up	Geophys	1ST	0		N/A	N/A	N/A	N/A										
Addison & Baxter Ltd.	UK	Newport Pagnell(UK)	Sermoneftegas	Russia	Timan-Pechora	Barents Sea	Barents Sea		N/A	Service Contract		Agreement Reached	N/A	N/A	Upgrading and operating seismic survey vessels for use in 2D and 3D shallow water surveys. To be based in Murmansk	O&G	Up	Geophys	1ST	0		N/A	N/A	N/A	N/A										
Addison & Baxter Ltd.	UK	Newport Pagnell(UK)	Dalmineftegas	Russia	Russian Far East	Sakhalin Oblast	Sakhalin Island		N/A	Service Contract		Agreement Reached	N/A	N/A	Upgrading and operating seismic survey vessels for use in 2D and 3D shallow water surveys	O&G	Up	Geophys	1ST	0		N/A	N/A	N/A	N/A										
Advanced Resources International Inc - ARI	USA	N/A	Symkaya Exploration, Chernogorskoye JV, Vanyogannett JV and Nizhnevartovsk	Russia	Western Siberia					Service Contract		Operational	N/A	N/A	ARI to act as technical consultants to a number of O&G JV projects in Western Siberia. In 1995-96 ARI will support geological operations with Symkaya Exploration in Krasnoyarsk Krai, assist Chernogorskoye, Vanyogannett JVs, and Nizhnevartovsk	O&G	Up	S&S	1ST	0		N/A	N/A	N/A	N/A										
Ago Oil & Gas Corp.	USA	N/A	Neteodacha	Russia				Neteodacha/Ago International		Joint Venture	Oct-96	Reported JV formed	NO	N/A	Ago Oil & Gas Corp (US) and the Neteodacha R&D Centre have established a joint consulting venture. JV plans to set-up subsidiaries in Kazakhstan	O&G	Up	S&S	1ST	0		N/A	N/A	N/A	N/A										
AGIP SpA	Italy	N/A	LUKoil, Kamysheft, Astrakhanneft, and Nizhnevartovsk	Russia	North Caucasus & Caspian Sea	Kalmykia, Astrakhan Oblast, & Caspian Sea				Joint Venture		Equity Agreement Signed	NO	N/A	Explore and develop oil fields based on or close to the Russian shore of the Caspian Sea	O	Up	E&D	1ST	0				N/A											
AGIP SpA	Italy	British Petroleum(UK), Total(France), Royal Dutch Shell(UK/Netherlands), Chevron(US), Mobil Oil(US), Unocal(US), Oman Oil Company(Oman)		Russia	Pre-Caspian Basin	Astrakhan Oblast				Tender	Aug-96	Tender Reported	NO	N/A	8 oil companies are vying for the right to exploit oil fields in Astrakhan estimated to contain 5-600 MMt of oil and 400-500 Bcm of gas. 1st phase exploration is estimated to cost \$250 MM and total cost is \$2.5-3 Bn	O&G	Up	E&D	1ST	1		3,635	4,362	450		250.00	2500.00	3000.00							
AGIP SpA	Italy	N/A	Ministry of Oil & Gas	Turkmenistan						Protocol/MOU	*1995	Signed Proposal	NO	N/A	AGIP signed a protocol of intent with Turkmenistan Ministry of Oil and Gas in summer of 1995 for field development, as of Mar '96 no progress has been made	O	Up	Dev	1ST	0															
AGIP SpA(33.3%)	Italy	N/A	LUKoil(66.7%)	Russia	Western Siberia	Khanty-Mansiysk Aut. Okrug	Vostochno-Priobrazhny Oil Field	LUKAGIP JV (possibly AUP/JV)		Joint Venture	Jan-94	Protocol Signed in Jan. '94	NO	N/A	AGIP will become a partner in the development of the Vostochno-Priobrazhny Field which is already under production; estimate export to be 100 MMbbls of which 36MMbbls would belong to AGIP	O	Up	Dev	1ST	1	20	100	125	0		240.00		240.00		LUKoil will in exchange gain a share of two oil concessions in Tunisia			Incremental exportable output over 20 years is estimated to be 95 MMbbls.		
Aker Gulf Marine	USA	N/A		Russia	Timan-Pechora					Service Contract			NO	N/A	Support construction for Polar Lights Venture	O	Up	S&S	2ND	0		N/A	N/A	N/A	N/A										
Alyntash(50%)	Turkey	Delta an affiliate of Transiltechnic (Turkey)?	SOCAR(50%)	Azerbaijan					0.1	Joint Venture	*1995	Preliminary Agreement Signed		N/A	Autumn '96 Alyntash & SOCAR signed an agreement to form JV to produce and process NG in Azerbaijan; to build a plant to produce & export LNG, create marketing system & eventually develop an O&G field; Mar'96 Delta?	NG	Up	Dev	1ST	1		N/A	N/A												
Amnrex plc.(50%)	Ireland	N/A	Kommert(50%), UshahGDU(50%)	Russia	Timan-Pechora	Kom. Republic	Kiravay Oil Field	Amnrex JV Kiravay Project	11.25	Joint Venture	Apr-95	MOU signed Approved Operational	YES	see below	In Apr '95 Amnrex signed an MOU with the Kommert JSC to develop the 50 MMbbls Kiravay Field at an estimated cost of \$3.6MM (initial CAPEX \$2.5MM); Sept '95 Approved, includes recommissioning 10 wells & finishing an oil treatment plant at the field	O	Up	Dev	1ST	1		50	50	N/A		2.50	3.40	3.60		Amnrex will raise interest bearing advances of \$3.6 MM to JV; Amnrex will re all revenues from recommissioned wells until loans & interest are repaid, then proceeds will be split (50/50) between Kommert & Amnrex			The existing 10 wells at Kiravay produce 2,000 bopd. Further development to raise production to 4,000 bopd. included in production totals below		

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partner	Host Country	Host Geological or Geographical Region	Host Political Region	Host Location	Name of Project/JV	Charter Capital (\$US MM)	Contract Form	Date Signed or JV Registered	Status	Farm-in	Farm-in Notes	Project Description	O & G NG	Sector	Type	Contract Level	Upstream	Processing	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Natural Gas Reserves (Bcm)	Acreage (Sq. Km)	Initial Investment (\$US MM)	Total Investment Low Estimate (\$US MM)	Total Investment High Estimate (\$US MM)	Financing Notes	Contract Notes #1	Contract Notes #2	Production Notes	Export Notes	
Amnec Plc. (50%), East-West Oil Limited, 49% owned by Zarubzhneft (Russia) and 51% by Titan Assets Ltd. holds 38.6% of Amnec as of 31 Dec 94	Ireland	International Business Partners Inc. (USA) (5%)	Kommert (50%), Ushatongdu (5%)	Russia	Timan-Pechora	Komi Republic	North Anzskoye, Isakovskoye, and Lemvoulkoye Oil Fields	Amnec/JV North Anzskoye, Isakovskoye, and Lemvoulkoye Oil Fields	11.25	Joint Venture	Jan-94 but not original date with BP	Operational	YES	Somson Resources declined Farm-in invitation; Amnec farmed in for a 50% interest as of 1 Jan 94 for \$4.68MM thereby completely replacing BP. Kommert completely took over (merger?) Ushatongdu participation.	JV to further carryout EOR plus additional developments to improve production facilities in Komi Republic.	O	Up	Dev	1st	1	20	22	22	0		4.70	10.00	10.00	Amnec paid \$4.7 MM to farm-in into JV, and will spend approx. \$2 MM on drilling in 1994.	East-West Oil has waived its entitlement to 20% of the company's net income from Russian operations until after 1997. East-West Oil will not receive any payments until Amnec's net income reaches \$100,000 threshold. As of Aug '96 still not reached.			Production: Late '93 output is 1,200 bopd; 619,404 bbls in '94; 532,891 bbls in '95.	Export: 41,900 bbls in '92; 109,500 bbls in '93; 804,789 bbls in '94; 533,618 bbls in '95. JV granted oil export tax exemption on 1 Sep '94 for a period of 3 yrs. No excise tax.
Amoco Europa Petroleum Co. (50%), subsidiary of Amoco Corp.	USA	N/A	YUKOS/Yuganskneftegaz (50%), Yuganskneft (5%)	Russia	Western Siberia	Khanty-Mansiysk Aut. Okrug	Pravobokoye Oil Field	Pravobokoye PSA	N/A	PSA	*1992	Tender 1993, FS Completed; Negotiations Ongoing	NO	Yuganskneft's claim over Pravobokoye discarded in late 1994 by Russian Government	To develop the Pravobokoye Field in West Siberia; to extract 575 MMbbl over its 58 years of viable production; Production during 1st 16 years to be 19.9 MMtpy;	O	Up	Dev	1st	1	60	4,180	4,435	37	6,446	633.00	9900.00	29000.00	Initial phase \$183 MM from Amoco, \$180 MM from Russian partner, and possibly \$300 MM from World Bank	10% Roy (10 yrs), 14% Roy (extension yrs); 48% Cost Oil; Pay back period 7 yrs; Profit split under negotiation; estimated Russian partner revenues \$2 Bn, Gov't revenues \$49.5 Bn; Avg. production cost			Current 10,000 bopd; Planned peak production is 450,000 bopd	
Amoco Europa Petroleum, subsidiary of Amoco Corp.	USA	Shell Exploration B.V. (Netherlands)		Russia	Russian Far East	Sakhalin Oblast		Sakhalin-IV	N/A	Tender		Suspended	NO	N/A	Jointly to pursue Sakhalin III & IV tenders; lost Sakhalin-III; Chose not to submit a bid for Sakhalin IV tender.	O&G	Up	E&D	1st	0														
Amoco Europa Petroleum, subsidiary of Amoco Corp.	USA	N/A	Yuzhgeologiya	Russia	North Caspian Basin	Rostov Oblast	Romanovskoye Oil Field			Protocol/MOU	Apr-94	Proposal Only	NO	N/A	Provide financial and technical assistance to develop the Romanovskoye Oil Field; from 1988-1993, 6 out of 6 exploration wells found oil & gas deposits.	O&G	Up	E&D	1st	1		1,135	1,135	54	1,200									
Amoco Europa Petroleum, subsidiary of Amoco Corp.	USA	N/A	Rosneft	Russia	Timan-Pechora	Nenets Aut. Okrug	Central Khoreyverskaya Depression			Tender	Aug-96	Proposal Only			In Jun '96 reported that Amoco & Rosneft will submit a joint bid for acreage covering the Central Khoreyverskaya Depression due in Aug '96. Previous drilling has identified several fields although lack of pipeline infrastructure has prevented development.	O	Up	E&D	1st	1														
Amoco Europa Petroleum, subsidiary of Amoco Corp.	USA	N/A	Nodimgazprom, subsidiary of Gazprom	Russia	Yamal Peninsula	Yamal-Nenets Aut. Okrug				Service Contract			NO	N/A	Amoco conducted a FS with Gazprom for the development of the Rostovskoye, Novoportovskoye and	NG	Up	Dev	1st	1				24,300										
Amoco Kazakhstan Petroleum Co., subsidiary of Amoco Corp.	USA	N/A		Kazakhstan	Pre-Caspian Basin	Aktauinsk Oblast	2 Blocks in Yuzhnyaya Emba Region			PSA	Sep-96	License awarded; PSA yet to be finalized	NO	N/A	On 5 Sep '96 Amoco was awarded a 31 year license for 2 blocks in the Yuzhnyaya Emba Region; contract terms yet to be finalized.	O	Up	E&D	1st	1	31													
Amoco Latvia Petroleum Company (49%), subsidiary of Amoco Corp.	USA	Oleorapetroleum AB (45%) (Sweden)	Ventpils Nafta (10%)	Latvia	Baltic Syncline	Baltic Sea	Dalders sub-sea formation	Joint Venture		Joint Venture	Oct-96	Formed strategic alliance; Signed with Gov't....	NO	N/A	Amoco and OPAB have entered into a strategic alliance to explore in a JV the sub-sea formation Dalders in the Baltic Sea; 31 Oct '96 agreement with Latvian Gov't for E&D Rights. Lithuanian Gov't has protested oil area lies in a disputed area of the sea.	O	Up	E&D	1st	1		200	200		600.00	1000.00		1st stage investment is \$7-9 MM for drilling at the end of 1996; \$15-20 MM for appraisal; then 3rd stage development is estimated at being \$500 MM to \$1,000 MM over 10-12 years.	Future Profits will be split according to the following: 45% Amoco; 45% OPAB; and 10% Latvian State.					
AMP International Inc.	USA	N/A		Kazakhstan						Protocol/MOU			NO	N/A	Possible oil and gas field development.	O&G	Up	Dev	1st	0														
AMP International Inc.	USA	N/A		Russia	Russian Far East	Sakhalin Oblast				Protocol/MOU			NO	N/A	Joint development of oil reserves.	O	Up	Dev	1st	0														
AMP International Inc.	USA	N/A		Russia	Western Siberia	Tomsk Oblast				Protocol/MOU			NO	N/A	Joint development of oil reserves.	O	Up	Dev	1st	0														
Andersen-Smith Overseas Inc. (10%)	USA	St. Mary Land & Exp. (USA) (18%), Itochu (Japan) (22%)	Chemogoriet PA (50%)	Russia	Western Siberia	Tyumen Oblast	Chemogorskoye Oil Fields	Chemogorskoye JV	200,000 Rbl	Joint Venture	*1992	Operational	YES	Itochu farmed-in for 22%. In Mar '96 St. Marys indicated that several potential buyers had expressed interest in buying 18% of the JV.	Develop the Chemogorskoye oil field with estimated reserves of 85 MMbbls; JV plans to spend \$300 MM to drill over 220 wells.	O	Up	Dev	1st	1		85	85	0		35.00	282.60	282.60	EBRD disbursed 1st tranche (\$11.5 MM) of \$40 MM in 1993, 2nd tranche (\$28.5 MM) will come only after oil export tax exemption. US Eximbank has committed \$44 MM credit. OPIC is providing PR.	JV granted oil export tax exemption on 1 Sep '94 for a period of 3 yrs. Effective 1 Aug '96 excise tax reduced from 70,000 to 20,000 rubles (\$13.66 to \$3.60) per tonne.			Production: 493,480 bbls in '93, late '93 output 2,500 bopd; 1,473 MMbbls in '94; 2,103 MMbbls in '95; Production @ end of '96 should be 13,500 bopd; Peak production of 16,500 bopd for 6 yrs.	Export: 297,100 bbls in '93; 1,459 MMbbls in '94; 2,056 MMbbls in '95; Itochu's exports go to Slavnaft via Orustzha pipeline.
Anglo-Dutch Petroleum Int'l	USA	Nachtha Israel (Israel)	Mangystaumuna gaz	Kazakhstan	South Mangystauk Basin	Mangystau Oblast	Tenge Oil & Gas Field	Tenge JV		Joint Venture	*1992	License awarded 5 Sep '96	NO	N/A	JV to develop the Tenge O&G Field; estimated reserves of 204 MMbbls oil & 1.2 Tcf NG; Shallow reservoir, 2,700 M. sweet oil, 2% sulfur; Prod. license awarded 5 Sep '96. At end of '96 not yet producing; Mar '96 JV took over field; 3 phase development.	O	Up	Dev	1st	1	26	204	204	34		370.00	370.00		Possible co-operation from OPIC.			3 phase development: Each phase to add 16,000 bopd; 1st phase to be completed in 9 months; Peak production to be 40,000 bopd in 4-6 yrs.		

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country	Host Geological or Geographical Region	Host Political Region	Host Location	Name of Project/JV	Charter Capital (\$US MM)	Contract Form	Date Signed or JV Registered	Status	Farm-in	Farm-in Notes	Project Description	O & G NG	Sector	Type	Contract Level	Acacia Upstream Project Duration (Yrs)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Natural Gas Reserves (Bcm)	Acres (Sq Km)	Initial Investment (\$US MM)	Total Investment Low Estimate (\$US MM)	Total Investment High Estimate (\$US MM)	Financing Notes	Contract Notes #1	Contract Notes #2	Production Notes	Export Notes					
Anglo-Siberian Oil Co. Ltd.	Cyprus / UK	N/A	Yenisei-Neftgaz geologya	Russia	Eastern Siberia	Krasnoyarsk Krai	Vankorskoye Oil Field	Yenisei-Neft JV		Joint Venture	Oct-92	Operational	Maybe	Shell is believed to be considering taking over as operator	JV will develop the Vankorskoye oil deposit in Turukhansk district of eastern Siberia. A local 14,600 bpd refinery is to be built for supplying the local market; Later phase will require 600 km pipeline to link to Tyumen Grid	O	Up	Dev	1ST	1	400	400	0														
Apache Corp.	USA	0	Kasimov-Neftgaz	Azerbaijan	Caspian Sea	Caspian Sea	Kapaz Oil Field			Joint Venture		Suspended?	Maybe	Rumored that farm-in is likely;	Develop the Kapaz offshore oil field.	O	Up	Dev	1ST	1	200	200	0		0.60	20.00	25.00										
Armenian Oil & Gas Development Fund Inc. (Armad)	USA	DEPEKY(Greece)	Armenian Ministry of Fuel and Energy	Armenia	Octoberian Region				8	Service Contract	Sep-93	Signed; Operational Completed	NO	N/A	In Aug. 1993 58MM ARMNEFT fund created for NG in Armenia; In Sept '93 DEPEKY awarded contract to drill 2 expl. wells; operations to begin in Feb.'96; option for 2 more wells in 6 months time; 2 wells were dry	NG	Up	Expl	1ST	1	0	0	0		15.00	15.00	15.00					Initial report of 58 MM ARMNEFT fund created in Aug. 1993 consisting of \$1 MM from US State Department and \$7 MM from Armenia Diaspora in North America; later report says \$4 MM from US					
Arreco USA Inc.	USA	N/A	Zarubeshneft	Russia						Supply Contract			NO	N/A	Supply of 40 US Workover rigs. R1 Infr - 20 rigs. (Arreco Inc. - 10 rigs. Cardwell Infr Inc. - 10 rigs)	O	Up	S&S	1ST	0	N/A	N/A	N/A	N/A													
Arthur D. Little Inc.	USA	Foreign Consortium, see Mobil Entry	Kazakhstan-Caspian Shelf JSC, a new national oil company	Kazakhstan	Caspian Sea	Caspian Sea	Caspian Sea	North Caspian Seismic Consortium	N/A	Service Contract		Operational Completed	N/A	N/A	Contracted to carry out an Environmental Impact Assessment (EIA); Completed in 14 months; EIA submitted to Ministry of Ecology and as result the permit for the 1996-98 Geophysical Programme was issued	O&G	Up	S&S	2ND	0	N/A	N/A	N/A	N/A													
Artic Slope Regional Corp.	USA			Russia	Timan-Pechora	Nenets Aut. Okrug				Joint Venture		Proposal			Examine oil and gas business opportunities	O&G	Up	E&D	1ST	0	5,000		0														
Ascom Grup	Moldova	Petrom RA(Romania); Bokarnet(Bulgaria)		Turkmenistan	Western Turkmenistan Basin	Balkan Oblast	Gotur-Dele and Bana-Gelmez Fields	Gotur-Dele and Bana-Gelmez Rehabilitation	N/A	Service Contract		Won Tender; Operational Mar '96	NO	N/A	Ascom Grup along with its partners won a tender to rehabilitate 300 idle wells over 3 yrs in Turkmenistan's Gotur-Dele & Bana-Gelmez Regions; rehabilitation to yield 20-25 tonnes per day	O	Up	Workover	1ST	1	3	N/A	N/A	N/A	N/A	30.00	30.00										
Atlantic Richfield Company - ARCO	USA		LUKoil	Russia				LUKoil Convertible Bond Issue	N/A	Acquisition	Sep-95	Tender closed 18 Sept '95	N/A	N/A	ARCO took part in LUKoil's \$350 MM Convertible Bond Issue in Sept '95 and then again in Mar '96; Giving ARCO a total 8.8% stake in LUKoil when the bond become convertible on 5 Apr '96; Total investment by ARCO was \$344 MM;	O	Up	E&D	1ST	1	N/A	N/A	N/A	N/A	344.00	344.00	344.00					In Sept '96 ARCO purchased 241,080 bonds for \$256 MM convertible into 41 MM voting shares, 6.3% of share equity and 5.7% of total equity; In Mar '96 ARCO purchased another 94,764 bonds for \$88 MM which were converted into 2.5% equity.	On 6 Apr '96 all bonds converted into approx. 67 MM shares giving ARCO 8.8% stake in LUKoil. Note: At end of the 1st tender only \$320 MM was taken up out of a planned \$350 MM sale; ARCO estimated to have spent \$344 MM in total				
Atlantic Richfield Company - ARCO (44%)	USA	N/A	LUKoil (54%)	Russia						Joint Venture	Mar-96	Agreed to form a JV	NO	N/A	On 25 Mar '96 ARCO & LUKoil signed a cooperation agreement to form a JV; ARCO will provide the JV with a \$10 year, \$3 billion	O	Up	E&D	1ST	1					3000.00	3000.00											
Atila Dogan Petroleum Corp (49%)	Turkey	N/A	SOCAR (51%)	Azerbaijan	Onshore Azerbaijan	Onshore Azerbaijan	Khali, Neftchala, Durovdag, Babakanan Fields	Arsad Petrol JV	50	Joint Venture	Feb-93	Contract Signed; JV registered 7 Jun '93; Operational	NO	N/A	JV to E&D the Neftchala district, currently the oil fields Khali & Neftchala produce (730 bpd) 90-100 bpd from 80 wells; Later other fields to be developed; Oil produced will be shared equally; July '96 reported test well completed with high yield	O	Up	E&D	1ST	1	20 + 5 yr. est	67	69	2	2,500		24.50	24.50					SOCAR to at the 1st 100 tonnes per day; production thereafter will be split equally between the partners.	In July '96 reported that JV would start producing oil soon at new fields in the onshore Neftchala district; Test wells have been drilled with high yields; Output of Neftchala district is now 0.1 MMtpy			
Austro International Investment Corp. SA	Switzerland	N/A	Samaranefegas	Russia	Volgo-Ural	Samara Oblast				Acquisition	Sep-95		NO	N/A	In Sept '95 it was reported that Austro acquired 3.9 MM shares in Samaranefegas	O	Up	E&D	1ST	1		N/A	N/A	N/A	N/A												
Avanti Consulting Inc.	USA	N/A	Varyaganeftgas	Russia	Western Siberia					Service Contract			N/A	N/A	Provide drilling, reservoir, pipeline, oil field equipment and production engineering services for ECR	O	Up	S&S	1ST	0		N/A	N/A	N/A	N/A												
Avanti Consulting Inc.	USA	N/A	Tomskneft	Russia	Western Siberia					Service Contract			N/A	N/A	Provide drilling, reservoir, pipeline, oil field equipment and production engineering services for ECR	O	Up	S&S	1ST	0		N/A	N/A	N/A	N/A												
Azteco Gas & Oil Co. (50%)	USA	Kyrgyz Corp. (Canada)	Kyrgyzneft (50%)	Kyrgyzstan	Fergana Basin			Azteco-Talas JV		Joint Venture	*1992	Operational	YES	In Oct '96 Kyrgyz of Canada acquired all the shares of Hydrocarbons Ltd. Cyprus (France) which had an agreement with Azteco-Talas JV to co-operate	Workover & repair of 600 wells in the Fergana Basin; as of Apr '94 Aztec has invested almost 350 MM	O	Up	Workover	1ST	1	90	90	0		80.00	100.00						Kyrgyz is to fund the 1st \$23MM of capital investments for the projects, i.e. 70% of profits until payback, 50% afterward, subject to a 10% working interest being negotiated with Azteco-Talas					

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country	Host Geological or Geographical Region	Host Political Region	Host Location	Name of Project/JV	Charter Capital (SUS MM)	Contract Form	Date Signed or JV Registered	Status	Farm-in	Farm-in Notes	Project Description	O & G NG	Sector	Type	Contract Level	Actual Upstream Production (MMbbl/d)	Contract Duration (Yrs)	Recoverable Oil & Gas Condensate Reserves (MMbbl)	Recoverable Oil & Gas Condensate Reserves (MMbbl)	Recoverable Natural Gas Reserves (Bcm)	Acreage (Sq. Km)	Initial Investment (SUS MM)	Total Investment Low Estimate (SUS MM)	Total Investment High Estimate (SUS MM)	Financing Notes	Contract Notes #1	Contract Notes #2	Production Notes	Export Notes	
Baker International Inc.	USA	N/A	Nizhnevartovsk effegaz	Russia	Western Siberia	Tyumen Oblast				Supply Contract			N/A	N/A	Supply 32 MM of low speed high torque motors	O	Up	S&S	1ST	0		N/A	N/A	N/A	N/A	2.00	2.00	2.00						
Baker Oil Tools	USA	N/A	SDANCO	Russia	Western Siberia			Baker SDANCO JV		Joint Venture			NO	N/A	Workover & repair of oil wells	O	Up	Workover	1ST	0														
Bas Energy Co.	USA	N/A		Russia	North Caucasus Province, Karapinsky Ridge	Kalmykia Republic				Concession					Development of oil & gas prospects in a 25,000 sq. km acreage	O&G	Up	E&D	1ST	1														
Bateman Americas	USA	Bateman Engineering Ltd.(Israel)	Tamneft	Russia	Western Siberia	Tamsk Oblast	Lugnetkoye Oil Field	Lugnetkoye NG Compression Facility	N/A	Service Contract	Jun. '94?	Underway	N/A	N/A	Company has won a contract to build a 992 MM NG compression and treatment station at Lugnetkoye on the Ob River to process 145 MMcfd gas from the Lugnetkoye Oil field which is currently flared.	NG	Up	Dev	1ST	1	2	N/A	N/A	N/A	N/A		92.00	100.00		Export Import Bank and Israel Trade Risk Insurance Company will provide major funding for the project, in Sept. '95 it was reported that Bateman Americas and its Israeli partner had completed a				
Bateman Americas	USA	Bateman Engineering Ltd.(Israel); also Dresser Rand(USA) and Salar Inc.(USA)	Pumetegas	Russia	Western Siberia	Yamal-Nenets Aut. Okrug	North Kharamour Field	North Kharamour NG Treatment Facility	N/A	Service Contract		Underway	N/A	N/A	Bateman Engineering signed an agreement with Pumetegas to build a NG treatment plant worth \$160MM; in Dec. 1995 reported that Dresser Rand (US) and Salar (US) would supply the NG compression	NG	Up	Dev	1ST	1		N/A	N/A	N/A	N/A		160.00	160.00		likely to be part of World Bank Credit				
Bay Inc.	USA	Canoco(USA)	Akhangel'skaya	Russia	Timan-Pechora					Service Contract			N/A	N/A	Outfitting of processing units for Polar lights JV	O	Up	S&S	2ND	0		N/A	N/A	N/A	N/A									
Bechtel Energy Resources Corp (50%)	USA	Fargo Ltd (UK) whose owners are SOCAR(Azerbaijan) & Urengoygazprom(Russia)	Urengoygazprom(60%)	Russia	Western Siberia	Yamal-Nenets Aut. Okrug	Severnny Urengoy Field	NorthGas JV		Joint Venture	Oct-'93	Signed; Ongoing	NO	N/A	To develop and produce condensate from the North Urengoy Field (Neocombrion Reservoir); 2 appraisal wells drilled in 1993/94. Awaiting financing as of Apr. '94	NG	Up	Dev	1ST	1	30	306	306	246		250.00	1300.00	1300.00		NorthGas is hoping to complete financing of the 1st phase mid-'95.			Production will start 18 months after operation begins and rise to 22,000 bopd and 500 MMcfd. Field came on stream in 1987 with 1990 output of 1,670 MMcfd	
Bechtel Petroleum, Chemical & Industrial Co.	USA	Chevron Overseas Co.(USA)	Tengizneftegas	Kazakhstan	Pre-Caspian Basin	Aktau Oblast	Tengiz and Karolevskoye Oil Fields	Tengizchevroil JV		Service Contract		Signed; Ongoing	N/A	N/A	Tengizneftegas awarded Bechtel to participate in management team to oversee initial capital construction in Tengiz and Karolevskoye oil fields.	O	Up	S&S	2ND	0	3	N/A	N/A	N/A	N/A									
Belarusneft PA	Belarus	N/A	Chemogoriet JSC	Russia	Western Siberia	Khar'y-Mansyik Aut. Okrug	Nizhnevartovsk			Joint Venture	*1994		NO	N/A	One of 3 JV being formed by Belarus in 1994, operations will include drill hole maintenance on	O	Up	Workover	1ST	0		N/A	N/A	N/A	N/A									
Benton Oil & Gas Co.	USA	N/A	Gazprom	Russia	Western Siberia	Yamal-Nenets Aut. Okrug	North Gubinskoye Field			Protocol/MOU	Apr-'95	Under Discussion	NO	N/A	Protocol with Gazprom for purchase of NG associated with Benton's oil & gas project. Benton has a 34% interest in the field. Proposed 1/3 of NG for export, the remaining for domestic use; Mar '96 Agreement reached; Final to be signed in Autumn '96.	NG	Up	Dev	1ST	1	25 + 5 yr. ext.	N/A	N/A	340		same as below	same as below		\$250MM would be paid through cash flow; therefore \$100 MM financing needed. Both OPEC and EBRD are being approached. In summer of '96 EBRD operations committee approved 340 MM loan — \$20 MM for '96.					
Benton Oil & Gas Co.(54%)	USA	N/A	Pumetegas(33%) Pumetegas PA(33%)	Russia	Western Siberia	Yamal-Nenets Aut. Okrug	North Gubinskoye Oil Field and Priskanoyskoye Sector	Geobent JV	22	Joint Venture	Dec-'91	Operational	NO		Gazprom signed a Protocol with Benton regarding produce associated NG in Apr. '95. JV to develop the North Gubinskoye Oil Field and Priskanoyskoye Sector. Reserves: 312 MMbbl of oil and 57MMbbl of condensate, constructed a 75,000 bopd - 68.5 km pipeline link for \$3.2MM, 367 wells planned in 8 yrs; license valid until 2018	O&G	Up	Dev	1ST	1	25 + 5 yr. ext.	357	357	same as above		300.00	400.00		JV Capital \$224, JP Morgan has been retained to raise \$200M in RF, spent \$10M in 1993, spent \$2M in 1st qtr 1994. Royalty 10%, Estimated Total Net JV Profit \$1.8 Bn. Net profit of foreign partner \$525 MM, no excise duty; JV granted oil export tax exemption on 1 Jan. '96 for a period of 1 yr	In Jan. '96 reported that cash flow severely hampered by Russia's tax burden;	1st Production Jul-'93 @ 500 bopd. Mid-1994 production @ 3,000 bopd; 1993 total production = 124,100 bbl; Peak production estimated to be 40,000 bopd; Production: 908,750 bbls in '94, 2,132 MMbbls in '95.	1st export in Nov '93; Export: 66,670 bbls in '93; 638,958 bbls in '94; 2 MMbbls in '95. Level of Benton's share of proved reserves from North Gubinskoye Field increased from 17.5 MMbbl in '94 to 22.6 MMbbl in '95		
Beta Well Services Inc.	Canada	N/A	Kogalymneftegaz	Russia	Western Siberia	Khar'y-Mansyik Aut. Okrug	Kogalym Region		N/A	Service Contract		Underway since?	N/A	N/A	1st contract for 386 well workovers/modifies and extends an initial 600 well agreement in 1992	O	Up	Workover	1ST	1		N/A	N/A	N/A	N/A									
Beta Well Services Inc.	Canada	N/A	Kogalymneftegaz	Russia	Western Siberia	Khar'y-Mansyik Aut. Okrug	Chemogor Region		N/A	Service Contract		Terminated	N/A	N/A	2nd contract for 268 wells in the Nizhnevartovsk area (Chemogor Region), work started in Apr. '93. In Jan. '94 Beta notified contract would not be renewed.	O	Up	Workover	1ST	1		N/A	N/A	N/A	N/A									
Beta Well Services Inc. (Canada)(50%)	Canada	Quest Petroleum Group(50%)(Qatar?)	Mangystaumunigas PA	Kazakhstan	South Mangystauk Basin	Mangystau Oblast	Zhetysay Field	Zhetysay JV		Joint Venture			YES	Jan. '94 Beta signed letter of intent to farm-in. On 22 Apr. '94 Beta acquired all of Quest's interest in JV with Kazakh government approval; Feb. '96 Beta announced intentions to sell-out	JV to carry out rehab & dev of Zhetysay Field which has some 800 wells; in May '96 procurement began for a 3 well pilot program; well servicing to commence in Jun '96; Nov. '96 MMG considered Beta in breach of obligations. Beta disputes claim	O	Up	Rehab	1ST	1					25.00	40.00		In July '95 Beta arranged a \$5.5 MM bridge financing loan to fund a well servicing program; As of Sept. '95 Beta's investment in JV was \$25 MM.	In May '96 Beta announced that its 3 O&G projects in Kazakhstan & Russia need \$25-\$40 MM in financing; Beta has commitments with discretionary timing to provide up to \$24.8 MM in cash & guarantees plus tech. & equip. worth \$3 MM to the 3 JVs.					

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country	Host Geological or Geographical Region	Host Political Region	Host Location	Name of Project/JV	Charter Capital (\$US MM)	Contract Form	Date Signed or JV Registered	Status	Form-in	Farm-in Notes	Project Description	O & G NG	Sector	Type	Contract Level	Actual Upstream Production (MMbbls)	Contract Duration (Yrs)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Natural Gas Reserves (Bcm)	Acreage (Sq Km)	Initial Investment (\$US MM)	Total Investment Low Estimate (\$US MM)	Total Investment High Estimate (\$US MM)	Financing Notes	Contract Notes #1	Contract Notes #2	Production Notes	Export Notes
Beta Well Services Inc. (Canada) (50%)	Canada	Quest Petroleum Group (5%) (Qatar?) — previous shareholders include Qucollina NL (Australia), Star Valley Resources Corp. (Canada)	Komineff (25%), Umnineff (25%)	Russia	Timan-Pechora	Komi Republic	Yuzh. Vozey, Fomennan (232 sq km), Zapad Vozey (50 sq km) and NW Vozey Ufimian (63 sq km) Blocks, Yuzh. Vozey and Zapad Vozey Fields	KomQuest JV	20	Joint Venture	Jun-93	Operational	YES	Jan '94 Beta signed letter of intent to farm-in; On 22 Apr '94 Beta acquired all of shares of Quest Petroleum Group giving Beta a 50% interest in KomQuest JV	JV to carry workover / redevelopment in West Vozey and South Fomen Fields. 1st Phase: 19-23 wells plus stimulation; 2nd Phase: beginning Mar '93 40 wells and a management study; Later stages will include further step-out, infill and horizontal drilling.	O	Up	Rehab	1ST	1	25				345		200.00	200.00	Quest provided \$10 MM for workovers and \$1 MM for expl.; Investments of Colina (net 11.5% in JV) as per end '93 was \$3 MM; Beta reported in Mar '95 losses due to pipeline problems in 1994; Beta reached new arrangement with Mannar in Jun '95.	Royalty 10%; Production Costs \$3/bbl. Pipeline loss break point \$18/bbl. JV granted oil export tax exemption on 1 Jan '95 for a period of 1 yr		Late '93 production kept voluntarily low at 3,000 bopd because of low oil prices & high taxes. Production: 785,600 bbls in '93; 1,383 MMbbls in '94; 1,244 MMbbls in '95; Peak production expected to be 18,000 bopd from 60 wells.	1st export Apr '93. As per end July '93 156,000 bbls exported and 667,600 bbls stored and approved for export. Export: 616,860 bbls in '93; 962,370 bbls in '95;
Beta Well Services Inc. (49%)	Canada	Anglo Stavropol Petroleum Ltd. (7%)	Stavropolnefteg as (61%)	Russia	Northern Caucasus	Stavropol Krai	Boyazhino v. Beldemirov, Ebelek, Kamysh, Kolodestn oye, Kum-Tyube, Lesnoye, Mekleba, Zapad Mekleba, Nadashan, Plovern, Povor, Provoberez hnoye, Pulkar, Pulkov, Soyuznoye, Vost.-Brezvodne nikoye, Zimnyaya Stavka Fields	ASTA JV		Joint Venture	Jul-94		YES	In Mar '94 agreed in principle; then on 28 Jul '94 Beta bought acquired 89% of Anglo Stavropol Petroleum Ltd. giving Beta 49% stake in the ASTA JV;	Beta bought out Anglo resources interest in the ASTA and ASTAR JVs. JVs have interests in 3 producing areas with 800 wells which require remedial work; there are also 2 other E&D areas; conducting engineering and feasibility studies;	O	Up	Rehab	1ST	1	25	31	31	N/A		3.00	25.00	25.00	Consideration for Farm-in into the ASTA and ASTAR JVs was the issuance of 1 MM Beta Shares plus a contingent payment up to a maximum of \$3 MM with the amount payable equal to 50% of distributable net profits after taxes from JVs.				
Beta Well Services Inc. (49%)	Canada	Anglo Stavropol Oil Company Ltd. (7%)	Stavropolnefteg as (61%)	Russia	Northern Caucasus	Stavropol Krai	Boyazhino v. Beldemirov, Ebelek, Kamysh, Kolodestn oye, Kum-Tyube, Lesnoye, Mekleba, Zapad Mekleba, Nadashan, Plovern, Povor, Provoberez hnoye, Pulkar, Pulkov, Soyuznoye, Vost.-Brezvodne nikoye, Zimnyaya Stavka Fields	ASTAR JV		Joint Venture	Jul-94		YES	On 28 Jul '94 Beta acquired 90.9% of the shares in Anglo Stavropol Oil Company Ltd. whose principal asset is the ASTAR JV	Beta bought out Anglo resources interest in the ASTA and ASTAR JVs. JVs have interests in 3 producing areas with 800 wells which require remedial work; there are also 2 other E&D areas; conducting engineering and feasibility studies;	O	Up	Rehab	1ST	1	25	same as above	same as above	N/A					Consideration for Farm-in into the ASTA and ASTAR JVs was issuance of 1 MM Beta Shares plus a contingent payment up to a maximum of \$3 MM with the amount payable equal to 50% of distributable net profits after taxes from JVs				
Bethlehem Steel	USA	Conoco (USA)	Akhangel'skoge oga	Russia	Timan-Pechora	Nenets Aut. Okrug	Ardaia Complex	Polar Lights JV	N/A	Supply Contract			NO	N/A	Supply of structural steel for Polar Lights JV	O	Up	S&S	2ND	0		N/A	N/A	N/A	N/A								
Biedermann International Inc. (37%)	USA	N/A	Embanett (63%)	Kazakhstan	Pre-Caspian Basin	Akhau Oblast	Kentbay Oil Field (Kohras North & Moldabek East)	Munai JV		JV/PSA	Jun-91	JV formed; operation not change to PSA, Terminated	N/A	N/A	JV formed 13 Jun '91 to develop the Kentbay oil field; on 9 July '93 changed to PSA, Biedermann failed to fulfill contractual obligations; PSA terminated on 5 Jul '94; Aug '95 Embanunogas award license to develop the field	O	Up	Dev	1ST	1		363	363	N/A	40	3.00	700.00	700.00	\$3 MM signature bonus, \$200 per year per hectare lease payments; Overdue payments shall increase by 1% over the weekly LIBOR for the US dollar;				
Briemis Muhendiser Bureau-BMB-Part of the United BMB Group Inc.	Turkey / USA	N/A	SOCAR	Azerbaijan	Onshore Azerbaijan	Onshore Azerbaijan	Karadag and Korgaz Oil Fields			JV/PSA	Aug-94	Not operational	NO	N/A	PSA to develop the Karadag & Korgaz oil fields 30 km West of Baku.	O	Up	Dev	1ST	1	20 + 10 yr. ext.	30	60	0		4.00			Awaiting PRI from OPEC before United BMB will proceed with the project.				
Briemis Muhendiser Bureau A.S.-BMB-Part of the United BMB Group Inc.	Turkey / USA	Siemens (Germany)	Akhubneft, Tupar	Kazakhstan	Pre-Caspian Basin	Akhubneft Oblast	Kentbay and Alibekmola Oil Fields			Joint Venture	Aug-95	Formation of JV Reported	Maybe	Apparently Rosneft, LUKoil and Elf Aquitaine have also expressed interest	JV formed to develop the Alibekmola and Kentbay Fields in Kazakhstan; the development is linked to the construction of a thermal power station in Akhubneft; may include rehabilitation of wells at Oymaha and South Zhetybay Fields	O	Up	Dev	1ST	1		609	600	N/A		900.00	1100.00	Kazakhstan will receive a 954 MW NG-fired power plant (partner dead); As BMB is a small company farm-outs and subcontracting is very likely; Siemens joined.					

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Bleech Corp.	Canada	N/A	SDANCO, RUSIA Petroleum	Russia	East Siberia	Muhik Oblast	Verkhne-Chornokoye Oil Field and Kovvinskoye Natural Gas Field			PSA		Proposed	Maybe		25 year project to develop the Verkhne-Chornokoye oil field and the Kovvinskoye NG field. RUSIA Petroleum is the local license holder. Estimated production of 200,000 bpd and 1 Bcf by the year 2000.	O & G	Up	Dev	1ST	1	25	1,800	1,800	538	354,830										
Bleech Corp. (65%)	Canada	N/A	Slur (5%)	Russia	Timan-Pechora	Komi Republic	Aranets, Subar, Pyzhvet, Volst, Pyzhvet, Lekker, and Yush, Kytayel Oil Fields	Bleech Slur JV		Joint Venture	Oct-93		YES	Jan. '96 Bleech announced its intention to increase stake from 80% to 95% for \$100,000 cash plus 2.76MM Bleech common shares	Bleech acquired an interest in Slur a private Russian firm. Production in the Timan-Pechora is to start in fall of 1994 at 900bpd and rising to 10,000 bpd later on.	O	Up	Dev	1ST	1			N/A									Production 0 MMbbls in '94, 101,78 bbls in '95;			
Blue Marine	UK	N/A	SOCAR	Azerbaijan	Caspian Sea	Caspian Sea	Chirag, Azin and Deep Water Section of the Guneshli Fields	AIOC	N/A	Service Contract		Reported Aug. '96	N/A	N/A	Blue Marine (UK) has a contract with SOCAR to carry-out diving operations in the Caspian Sea	O & G	Up	S&S	2ND	0		N/A	N/A	N/A	N/A										
Bonus Petroleum Corp.	Canada	Can-Kaz Global Oils of Canada (Canada) (5%)	Mangystauette gaz	Kazakhstan	South Mangystau k Basin	Mangystau Oblast	Uzen Field	Uzen Oil Field Rehabilitation	N/A	Service Contract	Mar-94		YES	In Mar '94 Bonus Petroleum bought out Can-Kaz.	Can-Kaz, a consortium of small Canadian independents, is to carry out a \$48 MM well workover project. Over 6 years 1200-1800 wells. Seeking finance from Western Banks and Companies. Mar '94 Bonus Petroleum bought out Can-Kaz.	O	Up	Workover	1ST	1	5	N/A	N/A	N/A	N/A		48.00	48.00							
Bridas Corp.	Argentina	N/A	LUKoi	Russia	Western Siberia	Khar'y-Monytsk Aut. Okrug	Kechimovsk Oil Field			Joint Venture		Under Negotiation			JV is being negotiated to rehabilitate the Kechimovskoye oil field in the Langeba region of Western Siberia	O	Up	Rehab	1ST	1															
Bridas Corp. (75%)	Argentina	N/A	Turkmenneftegaz (25%)	Turkmenistan	Amu-Darya Province	Mary Oblast	Yashlar Gas Field	Yashlar JV		Joint Venture	*1992	1991 Auction. JV formed 1992. Operational	NO	N/A	JV has the E&D rights for the Yashlar Exploration Block. Exploration activities began in Feb. 1993. In Oct. '96 Bridas announced discovery of large NG field 450 km east of Ashgabat. Bridas estimates reserves at 800 Bcm & 165 MMbbls of	NG	Up	E&D	1ST	1		165	165	765	6,300		200.00	300.00			Bridas is entitled to 70% of all gas-related revenues and Turkmenistan will retain 30% of the proceeds.				
Bridas Corp. (50%)	Argentina	N/A	Balkannetfektrom (50%)	Turkmenistan	Western Turkmenistan Basin	Balkhan Oblast	Keyme and Ak-Patark Fields	Keyme JV		Joint Venture	Jan-92	JV formed Jan. '92. Wounded Jan. '93. Operational	NO	N/A	JV to develop the Keyme and Ak-Patark Fields. As of Oct. '95 JV is producing 111bpd and exporting oil to the Black Sea via the Volga-Don / River-Canal System. In Jan. '96 reported that Gov't revoked their export licence	O	Up	E&D	1ST	1		145	230	890	420		50.00	50.00	Initially paid \$15 MM in signature bonus plus another \$15 MM to alter contractual terms.	In Sept '95 Turkmenistan increased its share of profits in the Keyme JV from 65 to 75%, and changed Turkmenistan's share of base oil from 10% to	As of Oct. '95 the onshore field was producing 11,000 bopd of low sulfur crude.	In Oct. '95 Bridas reported it was shipping Okarem crude from its JV to the Black Sea through the Volga-Don / River Canal System in 10 barges.			
British Camoco Soviet Services Ltd. (50%)	UK	N/A	Urengoygazprom, Tyumengastekhnologiya (combined 50%)	Russia	Western Siberia	Yamal-Nenets Aut. Okrug	Urengoy Gas Field	Tyumengazcamoco JV	4	Joint Venture	*1990?	Operational	NO	N/A	JV venture began operations in 1992 for well rehabilitation on gas and gas condensate fields in the Tyumen Region. Camoco provides equipment which allows high recovery of condensate. In 1994 work will be intensified and repairs	NG	Up	Rehab	1ST	1															
British Gas plc.	UK	N/A	Gazprom	Russia						Protocol/MOU	Oct-95	Protocol of intent reported signed. Proposed Only	NO	N/A	In Oct. '95 it was reported that British Gas and Gazprom signed a protocol of intent for future possible joint ventures in NG. may also include LNG; in Nov. '95 reported that Gazprom may buy several Bcm of NG from BGas using planned	NG	Up	Dev	1ST	0															
British Gas plc. (42.5%)	UK	AGIP (Italy) (42.5%), Karachaganakgazprom (Russia) (15%)		Kazakhstan	Pre-Caspian Basin	Ural'sk Oblast	Karachaganak Oil, Gas and Condensate Field	Karachaganak European Economic Interest Grouping - KEEG JV	N/A	PSA	Mar-95	Tender 1992. Protocol of intent signed 1 Jul. '92. Preliminary PSA signed Mar. '95. Operational	YES	Gazprom was given a 15% stake in Dec. '94. On 1 Jul. '95 reported that LUKoi is to take over Gazprom's 15% stake.	Preliminary PSA signed Mar. '95. 5 firms will invest \$100 MM to lift rates back to 1990 level of 80bpd & 4 Bcm/yr from 20 bpd of liquids & 1 Bcm/yr of gas. No more investment until export arrangements is settled. One of 11 (out of 20) JVs in 1995 producing	O & G	Up	Dev	1ST	1	40	2,000	2,400	566		320.00	6000.00	24000.00	Kazakhstan as owner of the field will not contribute to the investment cost. Planned investments over the 1st four years is \$320 MM, the partner will pay pro-rata: then 36 Bn in 1st 10yrs and 320 Bn over 40yrs.	Note: In May '95 reported that BG and AGIP were considering a synthetic fuels facility costing \$2.4 Bn to convert NG into liquid transportation fuels thereby producing naphtha, jet kerosene, diesel and methanol.	Production may eventually yield 300,000 bopd of liquids plus 1,400 MMcfd of gas sales at the Russian border. As of Sept. '95 production had been raised to 210 MMcfd and 62,000 bopd.	Jun. '95 reported that British Gas had failed to persuade Russia to let Kazakh gas pass through to Western Export Markets. Gazprom is reported to be the problem.			

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Bula Resources (Holding) plc (51%)	Ireland	N/A	Russian Transcontinental Financial Corp. (49%) otherwise known as the Russia Corp.	Russia	Western Siberia	Khanty-Mansiysk Aut. Okrug	Lower, Middle & Upper Shapinkoye and Ryamnoye Fields	Alk-Chyr JV		Joint Venture	Nov-94	Operational	YES	In Nov '94 purchase option for 51% of Alk-Chyr; in '95 Bula paid \$5.6MM for the 51% interest; in return for Transcontinental Financial-Industrial Corp. which acquired a 25% stake of Bula Resources Holdings plc.	Alk-Chyr holds licenses to 4 prospective oil fields: Lower Shapinkoye (518 sq km, 204MMbbls); Middle Shapinkoye (641 sq km, 173 MMbbls); Upper Shapinkoye (533 sq km, 137 MMbbls); & Ryamnoye Field (9 MMbbls)	O	Up	Dev	1ST	1		525	525	0	1,692		334.00	334.00	Discussion underway with EBRD for \$75 MM loan.				
Calgary Overseas Development	Canada	N/A	Variegannetegas or Nayatannetegas	Russia	Western Siberia				N/A	Service Contract	*1992?	Negotiating/Terminated	N/A	N/A	Calgary Overseas a major well workover contractor in Western Siberia terminated negotiations with both Nayatannetegas and Variegannetegas at the end of 1993 as no progress had been made in requests for special export quotas.	O	Up	Workover	1ST	1													
Calgary Overseas Development	Canada	N/A	Kogalymnetegas, a subsidiary of LUKoil	Russia	Western Siberia				N/A	Service Contract	*1992?	Operational	N/A	N/A	Calgary Overseas has an ongoing well-workover contract with Kogalymnetegas; since 1992 it has restored 664 wells at a cost of \$353,600 per well.	O	Up	Workover	1ST	1		N/A	N/A	N/A	N/A		235.00	235.00					
Canadian Froamaster Ltd. (25%)	Canada	Norcan Energy Resources Ltd. (25%)	Tomskneft (25%), Vakhnetegas (25%)	Russia	Western Siberia	Tomsk Oblast	Vakh. Enn. Sev. & Yuzh. Izhmursk Fields	Vakhneft Services Joint Enterprise	29.2	Joint Venture	Oct-91	Operational	NO	N/A	JV to carryout hydrofracing in group of fields with 1,200 wells; Vakh Field has reserves of 500-600MMbbls; Operational by Mar '92; 1st Prod. July '92; Plans to expand contract to dev. drilling in other Vakh Field Sector	O	Up	ECOR	1ST	1		500	600	N/A		25.00	25.00	25.00	JV Charter Capital - \$29.2 MM; Total initial capital investment together with start-up working capital requirements of \$25 MM provided by financial and equity contributions of the Western partners; Norcan granted \$18.5 MM loan in '93.	Pays Excise tax. Denied oil export tax exemption despite recommendation by Interdepartmental Commission.		Planned Peak: Production of 20,000 bopd; 1st production late summer '92; Early '93 Production of 4,800 bopd; Produced 4,384 MMbbls in '93.	Export: 603,000 bbls in '92; 3.87 MMbbls in '93; 6,427 MMbbls in '94; 3,814 MMbbls in '95.
Canadian Froamaster Ltd. (25%)	Canada	PanCanadian (Canada) (25%)	Tyumenneftgaz (50%), may be also Samotlor or Nizhnevartovskneftgaz	Russia	Western Siberia	Khanty-Mansiysk Aut. Okrug	Samotlor and Yemakovskoye Fields	Samotlor PanCanadian Froamaster Services Joint Enterprise	6	Joint Venture	Jul-91	Operational	NO	N/A	JV to carryout Hydrofracing & workovers in Samotlor and Yemakovskoye oil fields near Nizhnevartovsk; operational as of Jan '92; PanCanadian planning to slow down investment due to Gov't's 30% oil export tax.	O	Up	ECOR	1ST	1	10 yrs max					25.00	60.00	60.00	Initial investment of \$25 MM in equity contribution and financing was supplied by Froamaster and PanCanadian. EBRD approved \$10 MM loan in Nov '92; fully drawn down by Jul '94. Froamaster intends to invest \$30 MM in '95 at its 4 Russian	Denied oil export tax exemption despite recommendation by Interdepartmental Commission.		Production target is 35kbopd from well stimulation. Production: 1993 = 6,166MMbbls	Export: 1.95 MMbbls in '92; 6,08MMbbls in '93; 6,718 MMbbls in '94; 6,769 MMbbls in '95.
Canadian Froamaster Ltd. (49%)	Canada	Royal Dutch Shell Group (5%)	Yuganskneftgaz JSC (51%)	Russia	Western Siberia	Khanty-Mansiysk Aut. Okrug	Mamontovo Field	Yuganskneft Froamaster JSC	12	Joint Venture	Apr-89	Operational	YES	In 1990 Froamaster sold 24.5% of its stake to Shell, but in July '94 Froamaster purchased all its stake back from Shell. Decision was made to convert to a JSC	JV to carryout EOR in Mamontovo Field	O	Up	ECOR	1ST	1	10 yrs max 25 years				18.00	18.00	18.00	Froamaster initially invested equipment, technology and capital worth \$8.7 MM; Yuganskneftgaz contributed \$9 MM; JV started making a profit after 1 year of operation.			Production of 9.78 MMbbls in '92; 11.9 MMbbls in '93;	Export: 10.04 MMbbls in '92; 9,780 MMbbls in '93; 13,407 MMbbls in '94; 9,921 MMbbls in '95.	
Canadian Froamaster Ltd. (50%)	Canada	N/A	Tomskneftgaz (25%), Strezhevoyneft (25%)	Russia	Western Siberia	Tomsk Oblast		Strezhevoy Services Joint Enterprise		Joint Venture	Nov-91	Operational?			JV to carryout workovers and hydrofracing in fields near Strezhevoy.	O	Up	ECOR	1ST	1									In '93 joint enterprise participants were considering converting JE into a JSC; Financing operations including debt financing, 3rd party financing; From Russian partner government credits were being				
Canadian Froamaster Ltd. (50%)	Canada	N/A	Tomskneftgaz (25%), Vayuganneftgaz (25%)	Russia	Western Siberia	Tomsk Oblast	Vayugan Oil Field	Vayugan Services Joint Enterprise	2 MM Rbz	Joint Venture	Nov-91	Operational	NO	N/A	JV to carryout workovers and hydrofracing in the Vayugan Field. Operational by Dec '92.	O	Up	ECOR	1ST	1					41.00	41.00	41.00	Initial operations are estimated to be \$41 MM of which \$32 MM had been spent by Jun '93. Discussions are underway with EBRD, IFC and Moscow Int'l Bank for \$23 MM supplied by loan and profit participation.	Excise tax Payable; Denied oil export tax exemption despite recommendation by Interdepartmental Commission.		Plan is to increase oil production by more than 20,000 bopd; Production: 769,000 bbls in '93;	Export: 0 bbls in '92; 617,000 bbls in '93; 2.13 MMbbls in '94; 2,462 MMbbls in '95;	

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Canadian Occidental Petroleum(40%)	Canada	Humeane Hydrocarbons Ltd.(Canada)(10%), Wega D. Geophysical Ltd.(Canada)(5%)	Yushkashneftegaz (25%), Yushkashneftegaz (25%)	Kazakhstan	Southern Turpan Basin	Dzhambul Oblast	Qyzylaya, Anykum and Maybulak Oil Fields, now maybe the Yushnyy Kumkol Oil Field	Turan Petroleum Joint Enterprise - QAM Project		Joint Venture	Nov-91	Signed, Formed, Ongoing	YES		CanOxy formed in for a 40% working interest in June '94	JV formed on 28 Nov '91 to develop the Qyzylaya, Anykum & Maybulak (QAM) Oil Fields and explore the South Kumkol area; significant find made in Qyzylaya Field in Nov '94 - flowed 3500 bopd; at end '95 not yet producing	O	Up	E&D	1ST	1		125	125			16.00	300.00	300.00	In '93 financing arrangements were being finalized; Occidental and Humeane are to invest \$300M. Turan Petroleum Cyprus Ltd. is 80% owned by Canadian Occidental, 20% owned by Humeane. As of mid-'96 - \$10 MM had been invested	3% Royalty, max. annual income tax 30%; 1 year tax holiday, 2nd year 50% income tax holiday; Humeane Hydrocarbons share of profits will be subject to 4.25% withholding tax from Cyprus before repatriation to Canada.		Project should produce 100bopd by end of 1996 and up to 550bopd by the end of the decade.		
Canadian Occidental Petroleum(40%)	Canada	Humeane Hydrocarbons Ltd.(Canada)(10%), Wega D. Geophysical Ltd.(Canada)(5%)	Yushkashneftegaz (25%), Yushkashneftegaz (25%)	Kazakhstan	Southern Turpan Basin	Dzhambul Oblast	Yushnyy "South" Kumkol Oil Field	Turan Petroleum Joint Enterprise - South Kumkol Field		Joint Venture	Nov-91	Signed, Formed, Ongoing	YES		CanOxy joined Humeane Hydrocarbons during the negotiating stage for a 40% interest in June '94	Autumn '95 JV applied for license to the Yushnyy Kumkol Field; at end '96 not yet producing	O	Up	E&D	1ST	1		35	35		included in above	included in above	included in above							
Cardwell International Inc.	USA	N/A	Mangystaumunogaz	Kazakhstan	South Mangystauk Basin	Mangystau Oblast	Uzen Oil Field			Supply Contract			N/A	N/A	Supply of 3 workover/drilling rigs for the Uzen field in the third qtr of 1994	O	Up	S&S	1ST	0			N/A	N/A	N/A	N/A									
Cardwell International Inc.	USA	N/A	Rov Zarubzhneft	Russia	Western Siberia					Supply Contract			N/A	N/A	Supply of 10 workover rigs.	O	Up	S&S	1ST	0			N/A	N/A	N/A	N/A	6.50	6.50	6.50						
Carey Energy Corp. (or K.Hill International)(27)	USA	N/A	Karashanbaser mneft or Karashan Oil JSC	Kazakhstan	Pre-Caspian Basin	Aktau Oblast	Karashanbas Oil Field	Karashanbas Oil Co. JSC		Joint Venture	*1992	JV formed; terminated	NO		N/A	The Karashanbas Oil Co. JV was formed in 1992 to develop the Karashanbas Oil Field; estimated production 11,600 bpd; JV terminated in 3rd qtr '96 due to financing problems.	O	Up	Dev	1ST	1														
Carpathy Petroleum Corp (45%), wholly owned subsidiary of United Kiev Resources	USA	N/A	Ukradna(55%)	Ukraine	Dnepro-Danets Basin	Poltava Oblast	Rudoviko-Krasnodavskoye Oil and Gas Condensate Field	UkrCarpat Oil Ltd. JV	N/A	Joint Venture	Sep-95		MAYBE		In Jun '96 reported that the US Company "Laso" held a stake in a "Carpathian Oil JV" (is this the same?)	In late summer 1995 Carpathy signed an agreement to develop the Rudoviko-Krasnodavskoye Field in the Poltava region of Eastern Ukraine; joint FS to be conducted within 90 days, and operations to	O&G	Up	Dev	1ST	1		60	60	28										
Carpathy Petroleum Corp (45%), wholly owned subsidiary of United Kiev Resources	USA	N/A	Ukradna(55%)	Ukraine	Carpathian Foredeep	Ivano-Frankivsk Oblast	Blitov Babchenkoye Oil Field	UkrCarpat Oil Ltd. JV		Joint Venture	1993?	Operational	NO		N/A	FS and workover program for Blitovskoye oil field; approval and license expected at the end of 1993. In Jul '96 production license awarded for field redevelopment; operations to begin in fall of 1995.	O	Up	Rehab	1ST	1		24	25	N/A						Condition of license is that the JV must sell its oil exclusively on the domestic market.				
Central Exporting Corp.	USA	N/A	Sakhalinstroy	Russia	Russian Far East	Sakhalin Oblast	Sakhalin Island			Joint Venture	Mar-96	Reported	NO		N/A	In Mar '96 it was reported that Alaskas Central Exporting Corp. agreed to form a JV to provide construction & servicing contracts on Sakhalin Is.	O&G	Up	S&S	1ST	0			N/A	N/A	N/A	N/A								
CFW Holdings Inc.(25%)	USA	Summenet Holdings Inc (Libera)(25%)	Ukhtaneftegaz ologia(50%)	Russia	Timan-Pechora	Yamal-Nenets Aut. Okrug	Nadevlu, Khayrey and Cherpyuy Oil Fields	Polar Oil & Gas Company JV	2	Joint Venture	Jan-92	20Dec '91 basic agreement to establish JV signed; JV signed Jan '92 operational?				Summenet and CFW formed the Polar Oil & Gas Company JV with Ukhtaneftegaz ologia to develop the Nadevlu, Khayrey and Cherpyuy Oil Fields in the Nenets Aut. Okrug; Summenet and CFW to form Sunarc Holding Inc.	O	Up	Dev	1ST	1	30								"JV to be based on the principles of self-financing."					
Chaparral Resources(22.5%)	USA	Other private investors, possibly 2 (22.5%)	Regional Government Group(50%)	Kazakhstan	Northern Ulytau Basin	Mangystau Oblast	Karakuduk Field	Central Asian Petroleum Guernsey		PSA	Sep-96	In Sept '96 PSA/agreement was approved	YES		In Apr '96 Chaparral acquired a private company that had a beneficial interest in the Karakuduk Field; Chaparral has a 46% ownership of Central Asian Petroleum Guernsey.	In Sept '96 Chaparral announced its joint development of the Karakuduk oil field was approved; a condition is that Chaparral must commit \$4MM by 28Nov '96 to rework and place on production a minimum of 7 testing wells in the field.	O	Up	Dev	1ST	1		100	100	N/A	N/A	4.00	4.00	4.00	Chaparral released 1 MM of 4.25MM common shares placed in escrow in Apr '96 for the acquisition; the other 3.25 MM shares will be held in escrow for future funding plans; Nov '96 Cmpy secured \$75 MM financing (18mth promissory note @ 8%) to satisfy	A condition is that Chaparral must commit \$4 MM by 28Nov '96 to rework and place on production a minimum of 7 testing wells in the field.				
Chemdesign, part of the McCorm Group	USA	N/A	Poltavagazprom	Ukraine	Dnepro-Danets Basin	Poltava Oblast	Yablunivskoye field	Yablunivskoye Development	N/A	Service Contract	Feb-96	Reported	NO		N/A	Chemdesign is to supply equipment and technology to produce and refine gas at the Yablunivskoye gas condensate field.	NG	Up	Dev	1ST	1						30.00	30.00							
Chevron Corp.	USA	Elf Aquitaine SA(France)	SOCAR	Azerbaijan	Caspian Sea	Caspian Sea	Arazdash, Mamedali and Tagiev PSA	Arazdash, Mamedali and Tagiev Blocks	N/A	PSA	Apr-96	Reported Negotiating Proposal	LIKELY		Aug '96 Elf Aquitaine signed a protocol with SOCAR to take over part of the latter's 50% interest in the exploration venture with Chevron covering the Caspian Block.	Chevron originally signed agreement to conduct exploration in southern sector of Caspian Sea; Elf and Chevron are now jointly negotiating to explore and develop the Arazdash, Mamedali and Tagiev	O	Up	E&D	1ST	1					1000.00	1000.00								

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country	Host Geological or Geographical Region	Host Political Region	Host Location	Name of Project/JV	Charter Capital (\$US MM)	Contract Form	Date Signed or JV Registered	Status	Farm-in	Farm-in Notes	Project Description	O & G NG	Sector	Type	Contract Level	Upstream Project	Contract Duration (Yrs)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Natural Gas Reserves (Bcm)	Acreage (Sq. Km)	Initial Investment (\$US MM)	Total Investment Low Estimate (\$US MM)	Total Investment High Estimate (\$US MM)	Financing Notes	Contract Notes #1	Contract Notes #2	Production Notes	Export Notes
Chevron Corp.	USA	N/A	Uzbekneftegaz	Uzbekistan					N/A	Protocol/MOU	Jun-94	Reported & Proposal	NO	N/A	Cooperate in developing oil and gas deposits in Uzbekistan; no particular deposit yet specified; also calls for use of American technology at depleted oil fields to enhance yields and to exploit new gas fields.	O&G	Up	E&D	1ST	0													
Chevron Corp. (50%)	USA	Mobil (25%)	Tengneftegaz (25%)	Kazakhstan	Pre-Caspian Basin	Akhau Oblast	Tengiz and Karakumskoye Oil Fields	Tengnechevrol JV		Joint Venture	Apr-93	Operational	YES	31 Oct. '95 reported Chevron agreed to a LUKoil farm-in (-20%); negotiations on-going. 30 May '96 Mobil agreed to buy 50% of Kazakh Gov't's share (i.e. 25% of total) for \$1.1-1.2 Bn; initial sum \$500 MM plus balance due in installments by 18 May '92 protocol signed; JV to develop Tengiz and Karakumskoye fields; Apr '96 TCO opened a \$102MM plant to remove Mercaptans. One of 11 JVs (out of 20) with actual production in 1995.	O	Up	Dev	1ST	1	40	6,000	9,000	0		1600.00	20000.00	20000.00	Tariff Relief granted to JV on 14 Oct. '93 saving some \$22 Bn over 40 yr. life of project; Invested - \$250 MM in '93, \$250 MM in '94, \$50 MM in '95; In Feb. '96 Chevron announced reducing annual expenditure for '95 from \$500 MM to	After Mobil farm-in, Kazakhstan will still earn 72% of profits after royalties, fees and taxes; Chevron and Mobil to split the rest.		Production in May '96 is 100,000 bopd; Production to be 130,000 bopd by end '96, 260,000 bopd when export pipeline completed; Estimated Peak Production is 700,000 bopd in 2010.		
Chinese Petroleum Corporation	China	N/A		Kazakhstan					N/A	Protocol/MOU					CPC is to carry out oil & gas exploration in Kazakhstan.	O&G	Up	Expl	1ST	0													
Comco	Switzerland	N/A	Zhiganskneftegaz	Russia	Eastern Siberia	Sakha Republic (Yakutia)	Zhigansk Oil Fields	Row JV		Joint Venture					JV to carry out rehabilitation of the Zhigansk Oil Fields.	O	Up	Rehab	1ST	1													
Comex Pro	France	Stapi Komex Seaway (Norway)	SOCAR	Azerbaijan	Caspian Sea	Caspian Sea	Caspian Sea			Joint Venture	Dec-95	Reported	NO	N/A	In Dec. '95 reported that Comex Pro and Stapi Komex Seaway won a tender to form a JV with SOCAR to conduct diving work in the Caspian Sea.	O&G	Up	S&S	1ST	0		N/A	N/A	N/A	N/A								
Commonwealth Oil & Gas Co., a division of A&S Geoscience Corp. (UK)	Canada	N/A	SOCAR	Azerbaijan	Onshore Azerbaijan	Onshore Azerbaijan				JV/PSA	Jan-96	Joint Study Signed	NO	N/A	Commonwealth Oil & Gas Co. signed a 6 month joint study project with SOCAR for a 604 sq km region 40 kms from Baku; the Gabutan region contains 16 structures, 9 of which have been drilled; hope PSA will be in place by July 1996.	O&G	Up	E&D	1ST	1	30	100	100	15	604	250.00	350.00	Expects to invest \$350 MM in the 30 yr. project.			Estimated Peak production of 22,000 - 25,000 bopd and 12.2 Mcd by the year 2000.		
Compagnie Generale de Geophysique	France	N/A		Kazakhstan	Turgay Basin and Tenz Depression	Turgay Oblast, Tselinograd Oblast, Karaganda Oblast	Tenz and Turgay Block		N/A	Service Contract			NO	N/A	CGP will act as broker for the Tenz and Turgay exploration blocks to be announced in 1993.	O	Up	S&S	1ST	0	N/A	N/A	N/A	N/A	N/A								
Conoco Inc.	USA	N/A	SOCAR	Azerbaijan	Caspian Sea	Caspian Sea	Gunesli Oil Field	Gunesli Oil Field Rehabilitation	N/A	Service Contract ?	Jul-96	Reported	NO	N/A	July '96 reported that Conoco was to help SOCAR to rehabilitate the shallow water portion of the Gunesli oil field. Believed the field still contains large reserves as it has been inefficiently produced in the past.	O	Up	Rehab	1ST	1													
Conoco Inc.	USA	Neste (Finland), Norsk Hydro (Norway), Total (France)	Gazprom, Rosneft	Russia	Timan-Pechora	Barents Sea	Shokomanovskoye Field		N/A	Protocol/MOU	Oct-95	Protocol of Intent Signed	NO	N/A	Foreign Companies completed a FS in 1992 but Gazprom and Rosneft were awarded the development license; in Oct '95 the 6 companies signed a protocol of intent to study joint development of the giant Shokomanovskoye field.	NG	Up	Dev	1ST	1		N/A	N/A	1,300		12000.00	20000.00						
Conoco Inc.	USA	N/A	Purnetgazpaga	Russia	Western Siberia	Yamal-Nenets Aut. Okrug	Severo-Kharampurkoye and Yuzhno-Kharampurkoye Oil Fields			Service Contract					Development work in the Severo-Kharampurkoye field (in 1993) and later on in the Yuzhno-Kharampurkoye field (in 1995).	O	Up	Dev	1ST	1													
Conoco Inc. (50%)	USA	N/A	Akhangel'skogeol (50%); Rosneft (?)	Russia	Timan-Pechora	Nenets Aut. Okrug	Ardain, Dyulshenskoye, Ostkhovskoye and Vost. Kaha Oil Fields	Polar Lights JV	80	JV/PSA	Dec-91	Rx license Jan. '92, Operating Pursuing PSA	NO	N/A	To develop the Polar Lights area with initial work in the Ardain complex. Initially 24 well; 66cm, 12" dia. pipeline with 40K bopd capacity built in 1993-94. Ardain field (122 MMbbls) and other 3 fields (11-22 MMbbls); operating as of 14 Jul. '93.	O	Up	Dev	1ST	1		133	144	0		625.00	625.00	JV Capital \$80 MM; OPC - \$60 MM, EBRD - \$90 MM, IFC - \$60 MM, Conoco had invested \$375 MM in project by Aug. '94.	Net JV Profit: \$563 MM; Net profit for Conoco = \$253 MM, RR - 25.9%. Production costs \$10-12/bbl, 10% Royalty. No excise tax; JV granted oil export tax exemption on 15 Sep '94 for a period of 3 yrs; 1st Profit expected end-'96; Ultimate Russian take - 71%.	Effective 1 Aug. '96 excise tax reduced from 70,000 Rbs to 20,000 Rbs \$813.65 to \$3.60 per tonne.	99% target from Ardain field is 24,800 bopd. Peak Production is estimated to be 32,000 bopd. Production: 1st Production in Aug. '94 of 20,000 bopd, 2,526 MMbbls in '94; 8,621 MMbbls in '95.	Exports: 2,350 MMbbls in '94; 8,748 MMbbls in '95; Export Swap agreement with Rosneft.	
Conoco Inc. (50%)	USA	N/A	Akhangel'skogeol (50%); Rosneft (?)	Russia	Timan-Pechora	Nenets Aut. Okrug	Khichuyevskoye, Yareyskoye, Yuzhno-Khichuyevskoye and Yareyskoye Field	Arctic Petroleum JV, "Northern Area"	200	JV/PSA	Apr-93	MOU signed; Not registered; negotiating Pursuing PSA	Maybe	In early 1996 Rosneft started negotiations with Conoco to join	To develop 4 oil fields in Nenets Aut. Okrug; success depends on transportation route; either build a new oil terminal or integrate with the national grid. Akhangel'skogeol awarded licenses in Apr. '93; by end '95 Conoco had spent \$70MM on seismic.	O	Up	Dev	1ST	1		1,020	1,020	0		2000.00	3000.00				Planned start-up in '97. Peak production of 115,000 bopd in 2000-2002.		

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country	Host Geological or Geographical Region	Host Political Region	Host Location	Name of Project/JV	Charter Capital (SUS MM)	Contract Form	Date Signed or JV Registered	Status	Farm-in	Farm-in Notes	Project Description	O & G NG	Sector	Type	Contract Level	Acabar Upstream Project for Contract Duration (Yrs)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Natural Gas Reserves (Bcm)	Acreage (Sq. Km)	Initial Investment (SUS MM)	Total Investment Low Estimate (SUS MM)	Total Investment High Estimate (SUS MM)	Financing Notes	Contract Notes #1	Contract Notes #2	Production Notes	Export Notes		
Cooper Manufacturing Corp., a unit of Stanford International Corp.	USA	Tolisa(Ecuador)	Noyabrskneftegas	Russia	Volga-Ural	Pem Oblast	Pem	Pemtoine JV	N/A	Supply Contract		Completed	NO	N/A	Supply of 20 well servicing rig and related spares to Pemtoine JV, delivery in 1995.	O	Up	S&S	2ND	0		N/A	N/A	N/A		18.00	18.00	18.00						
Coalex Resources NL	Australia	N/A	Yuzhmorgeologyia, Krasnodarneftegas	Russia	Northern Caucasus Province	Krasnodar Krai				Joint Venture					Coalex signed JV agreements with two state companies(YMG and KNG) to explore and develop two areas in the Krasnodar region. Drilling is expected to take place in 1994 and 1995 on six identified structures. Both areas are close to existing oil fields.	O	Up	E&D	1ST	1														
Crystal Oil Co. Inc. (50%)	USA	N/A	Orenburgneft(50%)	Russia	Volga-Ural	Orenburg Oblast	Petrovskoye and Prunkino Fields	Buzuluk Crystal JV		Joint Venture	*1994				JV to carry out well workovers and EOR of oil and gas fields in the Orenburg region. 1st work.	O	Up	Workover	1ST	1					100.00	160.00		1st year expenditure is \$3 MM.				Work to begin in '94 and should add - 1,800 bopd to existing output of 5500 bopd		
Croft		N/A	Yuzhkazneftegaz	Kazakhstan	Southern Turgay Basin	Dzhendekhan Oblast	Turgay Block			Unknown	*1996	Reported Negotiating			In 1996 it was reported that Croft was negotiating to obtain exploration and development rights to a block in the Southern Turgay	O&G	Up	E&D	1ST	1														
Custom Digital Inc. - CDI	USA	N/A		Russia, Azerbaijan, Kazakhstan and Turkmenistan					N/A	Service Contract	*1993	Ongoing	N/A	N/A	Since 1993 and continuing in 1996 CDI has provided various hardware/software services for oil companies operating in the CIS	O&G	Up	S&S	1ST	0		N/A	N/A	N/A	N/A									
Dana Petroleum plc(30%)	Ireland	N/A	Tyumenneftegas, TEKSIB, Siberian Oil Corporation, Orenneftegazgeologya (Combined 70%)	Russia	Western Siberia	Khanty-Mansiysk Aut. Okrug	Sorlymkoye Oil Field	SorlymOil JV - Sorlymkoye Licence Development		Joint Venture	Jul-95	Operational; but JV not yet formed	YES	In July '95 Dana acquired a 30% working interest in the Sorlymkoye oil field in Western Siberia, with an option for increasing to 50%	Dana acquired a 30% working interest in the Sorlymkoye oil field in Western Siberia; Nov '95 Dana reported that the proven and probable reserves are 67 MMbbls with another 20MMbbls of possible reserves. plan to create SorlymOil CT JSC	O	Up	Dev	1ST	1		67	67	N/A		2.00	10.00	10.00	Dana has an option to increase its stake to 50% if certain financing criteria are met; Dana raised \$1.42 MM with a private placement of outstanding stock with MC Securities and GFM International; intends to seek listing					
Dana Petroleum plc(30%)	Ireland	N/A	Yuganskneftegaz(35%), TEKSIB(25%), and Siberian Oil Corporation(10%)	Russia	Western Siberia	Khanty-Mansiysk Aut. Okrug	Entelky Licence Area	YuganskOil JV - Entelky Licence Development		Joint Venture	Feb-96	Entered into Founders Agreement; JV not yet formed	NO	N/A	In Feb '96 Dana entered into a founders agreement for the formation of the YuganskOil CT JSC which will operate the Entelky Licence Area (just west of its existing Sorlymkoye licence); JV expected to be registered by end of 1996.	O	Up	Dev	1ST	1		72	72	N/A										
Dana Petroleum plc(50%)	Ireland	TM OK(Cyprus)(0%)	Yuganskneftegaz(50%) which is owned by Siberian Oil Corporation (50%), Kogalymneftegaz(25%), LUKoil(10%) and Megomneftegazgeologya(5%)	Russia	Western Siberia	Khanty-Mansiysk Aut. Okrug	South Val-Yuganskoye Oil Field	YuganskOil JV	1	Joint Venture	Nov-94	Operational	YES	Dana has acquired TM Oil's 50% interest in the Val-Yuganskoye Licence	In Oct '94 Dana acquired TM Oil's interest to develop the South Val-Yuganskoye Field; 14th Nov 1994 YuganskOil, a CT JSC, was registered, 9 km tie-in pipeline is needed	O	Up	Dev	1ST	1		31	36	N/A		227.00	227.00		CAPEX - \$42 MM. OPEX - \$186 MM; Dana committed \$20 MM financing. Rf \$4.5 MM loan from Russian Govt; Dana raised \$4 MM in rights issue in Sept '94 to fund YuganskOil.	Principle obligation of Dana is to provide or arrange Yuganskneftegaz with finance up to a maximum of \$20 MM, until the project is self-financing; Loans to be at LIBOR + 12%. Loans will become secured but presently on an unsecured basis.			Estimated Plateau Production of 9,000 - 13,000 bopd in 1998.	
Dansk Ole & Natural Gas AS - DONG	Denmark	E PH1 & Son A/S, TK Bassen A/S and Oden Energi ApS?	Gargada State Oil Geology Enterprise	Lithuania	Baltic Syncline	Onshore Lithuania	Gargada Oil Field	Minvos Narta JV		Joint Venture	Apr-95				JV explore and develop 1000 sq km area south of Klapeda. A \$4-6 MM, 18 appraisal program will be carried out. It may lead to a \$80 MM commercial	O	Up	E&D	1ST	1		18	20	N/A	1,000	4.50	80.00	80.00						
DEB Industries	Canada	N/A	Yuganskneftegaz	Russia	Western Siberia	Tyumen Oblast			N/A	Service Contract			N/A	N/A	Contract signed for the reconstruction of 700 idle wells in the Tyumen Region; Several foreign companies will be included in producing auxiliary technology and equipment	O	Up	Workover	1ST	1		N/A	N/A	N/A	N/A	154.00	154.00							
De Cesare	France?	N/A		Kazakhstan	Pre-Caspian Basin	Akaiabinsk Oblast	Zhalaymay and Shubarkuduk Oil Fields	Damunay JV		Joint Venture	*1996	Reported Negotiating	N/A	N/A	De Cesare which formed the Damunay JV is negotiating for development rights to the Zhalaymay and	O	Up	Dev	1ST	1														
Delcon Petroleum Development Ltd.	USA	N/A	Uzenmunagaz	Kazakhstan	North Ustyurt Basin	Mangystau Oblast	Uzen Field		N/A	Service Contract	Mar-95		N/A	N/A	In Mar '95 Delcon Petroleum Development Limited signed a well rehabilitation service contract with Uzenmunagaz for division 3.4 and 6 of the Uzen Field	O	Up	Rehab	1ST	1		N/A	N/A	N/A	N/A									

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country	Host Geological or Geographical Region	Host Political Region	Host Location	Name of Project/JV	Charter Capital (\$US MM)	Contract Form	Date Signed or JV Registered	Status	Form-in	Form-in Notes	Project Description	O & G NG	Sector	Type	Contract Level	Upstream	Project Contract Duration (Yrs)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Natural Gas Reserves (Bcm)	Acres (Sq. Km)	Initial Investment (\$US MM)	Total Investment Low Estimate (\$US MM)	Total Investment High Estimate (\$US MM)	Financing Notes	Contract Notes #1	Contract Notes #2	Production Notes	Export Notes	
Delta Hudson International Inc.	Canada	N/A	Azerpromstroy	Azerbaijan	Caspian Sea	Caspian Sea	Baku	Deltafram Engineering and Construction Co. Ltd.		Joint Venture		Reported	NO	N/A	JV to help develop onshore oil and gas infrastructure resulting from the offshore development of the Caspian Sea; Delta Hudson Int'l. is JV combining units of Hudson Engineering Corp. and Delta Catalytic Corp.	O&G	Up	S&S	1ST	0		N/A	N/A	N/A	N/A									
Delta Hudson International Inc.	Canada	N/A	Azerbaijantransstroy	Azerbaijan	Caspian Sea	Caspian Sea	Baku	Deltafram Engineering and Construction Co. Ltd.		Joint Venture		Reported	NO	N/A	JV to help develop onshore oil and gas infrastructure resulting from the offshore development of the Caspian Sea; Delta Hudson Int'l. is JV combining units of Hudson Engineering Corp. and Delta Catalytic Corp.	O&G	Up	S&S	1ST	0		N/A	N/A	N/A	N/A									
Demnax Volga Petroleum GmbH(50%)	Germany	Demnax is owned by AG/Veba Oil AG(Germany)(43%), RWE DEA AG(Germany)(18.5%), Wintershall AG(Germany)(18.5%)	Nizhnevotzhenskneftegaz(50%)	Russia	Volga-Ural	Volgograd Oblast	4 E&P (1,2,3,4) Blocks including Povodnye Oil Field	Volgademnot JV	2	Joint Venture	Dec-92	Effective Contract Date 25 Nov 93 Operational, but no production	NO	N/A	E&P JV: DM 63MM for 6 expl. wells & 3200 km seismic in 3 yrs expiring 31 Dec '96; Seismic started, delays in '94 due to lack of investor protection guarantees. 1st well spudded 8 May '95. 234 dev. wells planned; Jun '96 struck oil; license expires 2018	O	Up	E&P	1ST	1	26	2,084	2,084	265	22,662		\$120.00	\$120.00	JV Charter Capital = \$2 MM; disbursed in Dec '93: \$24,120 MM over 16-20 years; Geol Expl - \$1,280 MM; Development Drilling - \$4,720 MM; Field Facilities - \$2,120 MM; OPEX - \$16,000 MM.	RR - 16.1%; Total Net Profit - \$21,500 MM; Ultimate profit split: Demnax = 13.25% (\$2,200 MM); Nizhnevotzhenskneft = 13.25% (\$2,200 MM); Russian Gov't = 72.8% (\$17,100 MM).	Planned Peak Production of 140-200,000 bopd (or -10 MMbpy) and 619 MMstd (6.4Bcm/yr); Total Production 144.5 MM of oil, 125.7 Bcm of NG, and 6.4MM of Sulfur; Note that total reserves are greater than production over contract life			
Deufag	Germany	N/A	Ukraineftgaz, a subsidiary of LUKoil	Russia	Western Siberia				N/A	Service Contract	*1992?	Operational	NO	N/A	Deufag has a well-workover contract with Ukraineftgaz, a LUKoil subsidiary; in 1993 Deufag restored 40 wells @ a cost of \$184,140/well; by July '96 244 had been restored for Ukraineftgaz @ a cost of \$270,800 per well	O	Up	Workover	1ST	1		N/A	N/A	N/A	N/A		80.00	80.00	Invested \$7.36 MM in 1993.					
DG Ser (49%)	USA	N/A	SOCAR(51%)	Azerbaijan	Caspian Sea	Caspian Sea	Caspian Sea	Caspian Geophysical JV		Joint Venture		JV Formed; Operational	NO	N/A	Carry out 2D & 3D Seismic Surveys in Caspian Sea; in Dec '95 Caspian Geophysical completed \$8MM contract for AIOC - 3D work over Azer. Chirag and	O&G	Up	Geophysical	1ST	0		N/A	N/A	N/A	N/A	20.00	20.00	20.00	Petro Alliance (Russia) supplied \$20 MM loan for start-up.					
Digcon Inc. (50%)	USA	SOCAR(Azerbaijan)	LUKoil, Central Geophysical Expedition	Russia				MD Ser Geophysical, see now PetroAlliance Services Co. Ltd.		Joint Venture					Digcon has 50% interest, other partners LUKoil, Central Geophysical Expedition, SOCAR. This group of companies is involved in specialist oil-field technologies, geophysical surveying and data-processing and consultancy work in the FSU	O&G	Up	Geophysical	1ST	0		N/A	N/A	N/A	N/A									
Digcon Inc. (50%)	USA	SOCAR(Azerbaijan)	LUKoil, Central Geophysical Expedition	Russia				DG Ser JV		Joint Venture					Digcon has 50% interest, other partners LUKoil, Central Geophysical Expedition, SOCAR	O&G	Up	Geophysical	1ST	0		N/A	N/A	N/A	N/A									
Double Eagle Energy Co.	USA	N/A	Mangystaunumagas, and its representative Zhetysayneft NGDU	Kazakhstan	South Mangyshlak Basin	Mangystau Oblast	Asar Oil Field	Asar Oil Field EOR	N/A	Service Contract	Dec-94	Negotiating, Signed?	N/A	N/A	Double Eagle Energy Co. is negotiating a EOR service contract with Mangystaunumagas for the Asar Oil Field Area;	O	Up	EOR	1ST	1	5+1 yr. est.	N/A	N/A	N/A	N/A					Profit split of 50:50 after payment of expenses.				
Double Eagle Energy Co.	USA	N/A	Uzenmunagas	Kazakhstan	South Mangyshlak Basin	Mangystau Oblast	Block 8A of the Uzen Oil Field	Uzen Oil Field EOR	N/A	Service Contract	Jan-95	Signed	N/A	N/A	On 14 Jan. '95 the Double Eagle Energy Co. signed an EOR service contract with Uzenmunagas for Block 8A of the Uzen Oil Field; after one year of operations parties will negotiate a JV	O	Up	EOR	1ST	1	5+1 yr. est.	N/A	N/A	N/A	N/A					Profit split of 50:50 after payment of expenses.				
Double River Oil & Gas Co.	USA	N/A	Mangystaunumagas	Kazakhstan	North Ustyurt Basin	Mangystau Oblast	Severne "North" Buzachi Oilfield			Joint Venture		Negotiations in '95, Terminated	NO	N/A	Double River was negotiating lease rights to develop and operate the Severne Buzachi Oil field, 95 miles SW of the Tengiz oil field; negotiations	O	Up	Dev	1ST	1	20	370	370	0										
Double River Oil & Gas Co.	USA	N/A	Karashanbasmu	Kazakhstan	North Ustyurt Basin	Mangystau Oblast	Karashanbas Oil Field			Protocol/MOU	Jan-95				Protocol agreement for the development and operating rights for the undeveloped eastern portion of the Karashanbas oil field; work will begin in	O	Up	Dev	1ST	1		100	100	N/A										
Dreco Energy Services Ltd.	Canada	N/A		Russia	Western Siberia	Ugorsk Region			N/A	Supply Contract			N/A	N/A	Dreco won a \$9.9 MM contract to construct and deliver 13 workover rigs; deliveries are expected to be completed by Nov '94	O	Up	S&S	1ST	0		N/A	N/A	N/A	N/A		9.00	9.00						
Dresser Industries Inc.	USA	Conoco	Akhangel'skaya	Russia	Timan-Pechora	Nenets Aut. Okrug	Ardan Complex	Polar Lights JV	N/A	Supply Contract			N/A	N/A	Supply drill bits for the Polar Lights JV.	O	Up	S&S	2ND	0		N/A	N/A	N/A	N/A									

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country	Host Geological or Geographical Region	Host Political Region	Host Location	Name of Project/JV	Charter Capital (SUS MM)	Contract Form	Date Signed or JV Registered	Status	Farm-in	Farm-in Notes	Project Description	O & G NG	Sector	Type	Contract Level	Upstream Project or Duration (Yrs)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Natural Gas Reserves (Bcm)	Acreage (Sq. Km)	Initial Investment (SUS MM)	Total Investment Low Estimate (SUS MM)	Total Investment High Estimate (SUS MM)	Financing Notes	Contract Notes #1	Contract Notes #2	Production Notes	Export Notes			
Dresser Industries Inc.	USA	Nisho Iwai(Japan)	Uzbekneftegas	Uzbekistan	Amu-Darya Province	Kashka Darya Oblast	Kokdumalak Gas & Condensate Field	Kokdumalak Compressor Station	N/A	Service Contract		Construction began in 1995	N/A	N/A	Dresser Industries and Nisho Iwai will design and assemble a gas injection condensate plant at the Kokdumalak NG/Condensate Field (res. = 200 MMt). 1st 1.25 MMtpy train completed mid-'95; 2.5 MMtpy capacity expected by 3rd qtr. 1996	O&G	Up	Dev	1ST	1	1,416	1,454	N/A	N/A		163.00	163.00	Final agreement subject to securing suitable financing. Proposed financing package: JEDM - \$85 MM, USEDM - \$53 MM and Uzbek Gov't (through the National Foreign Trade Bank) - \$25 MM							
Eagleham Ltd.	France	N/A	Komnelt, Megonnetgaz, Yugonnetgaz, Nord Oil	Russia					N/A	Service Contract			N/A	N/A	Joint oil field and sea oil plant projects with Komnelt in Ural. Environmental services to Megonnetgaz, Yugonnetgaz, Nord Oil and Komnelt	O	Up	Rehab	1ST	1	N/A	N/A	N/A	N/A											
Earth Search Services Inc.	USA	Lockheed Environmental Systems, Idaho Technologies Inc., Idaho National Engineering Laboratory, Tetra Tech Inc., Bishop Associates, Ramparts Technologies, Thermo Technology Ventures, Smith Barney Investment Bankers, Hughes Aircraft & GDE Systems (all USA)	Semtech	Kazakhstan					N/A	Concession	Feb-96	Reported			Rights to explore for oil, gas and minerals on a 5 million acre concession in northeastern Kazakhstan. Will use NASA's USR 2 model plane to collect remote sensing data; operations to begin in Aug '96	O&G	Up	Expl	1ST	1															
EG&G Washington Analytical Services Centre Inc.	USA	N/A	Tatneft	Russia	Volga-Ural	Tatarstan			N/A	Service Contract					Seismic work contract	O	Up	Geophysics	1ST	0	N/A	N/A	N/A	N/A				Grant given by the US Trade & Development Agency to fund seismic work.							
Elf Aquitaine SA	France	N/A	Government of Turkmenistan	Turkmenistan	Caspian Sea	Caspian Sea			N/A	Protocol/MOU		Proposed/Terminated	N/A	N/A	Protocol of Cooperation signed for geophysical exploration of the Caspian Sea off of Turkmenistan; PSA will be the final result, apparently terminated in 1994 due to the fact that Turkmenistan did not give Elf exclusive rights to some acreage	O&G	Up	Expl	1ST	1				40,000											
Elf Aquitaine SA	France	N/A	Government of Uzbekistan	Uzbekistan					N/A	Protocol/MOU		Proposed	N/A	N/A	Protocol signed to explore and develop oil and gas in Uzbekistan	O&G	Up	E&D	1ST	0															
Elf Aquitaine SA	France	N/A	SOCAR	Azerbaijan	Caspian Sea	Caspian Sea	Lankaran-Denz Block	Lankaran-Denz PSA	N/A	PSA	Apr-96	Reported Negotiating Proposal	YES	Chevron was originally negotiating for this acreage.	In Apr. '96 reported that Elf completed a round of negotiations with SOCAR to develop the Lankaran-Denz Group of offshore oil fields.	O	Up	E&D	1ST	1					1000.00	1000.00									
Elf Aquitaine SA through its subsidiary Elf Neftgaz	France	N/A	Interneft(55% Goskommunchestvo, 65% Volgograd Oblast)	Russia	Volga-Ural and Pre-Caspian Basin	Volgograd Oblast and Saratov Oblast	Volgograd-Saratov Block	Volgograd-Saratov PSA	N/A	PSA	Feb-92	PSA signed Feb. '92. Partame ratified Mar '93. On hold, awaiting adoption of PSA Law Termination	NO	N/A	PSA signed in 1992 which calls for 5500 MM investment over 9 years. Total Area 17,800 sq km of which Saratov Block is 6,500 sq km. On 21 Apr. '96 all parties relinquished rights and obligations due to bureaucratic delays; new tender is planned for the area	O	Up	E&D	1ST	1				17,800	480.00	500.00	Expl. expenditures \$200 MM in 1st 4 yrs, \$180 MM over years 5-7, and \$120 MM over years 8-9; Signature bonus of \$5 MM; 1st 9 yrs Elf will receive 45% of Oil (i.e., Cost Oil); Profit oil(55%) split 60/40 in favour of Interneft; Profit oil split will adjust according to cumulative production: Elf oil, 30% >200MMt, 20% >300MMt, 15% >350MMt; Royalty, 12.5% \$200 MMt, 15% >200 MMt.	Interneft is to shoulder future tax burdens; Elf has option on 10% of output to finance infrastructure costs.							
Elfneftgaz, as subsidiary of Elf Aquitaine SA	France	N/A	Temimuna	Kazakhstan	Pre-Caspian Basin	Aktyubinsk Oblast	Temir Block	Temir PSA	N/A	PSA	Apr-92	Effective Date: Operational	NO	N/A	To E&D a 19,300 sq km area southwest of Aktyubinsk, spend \$380 MM over 10 yrs. Drilling started in Oct '93; P&A in July'94 because uneconomic reserves; permit still has 2.5 more yrs; work restarted spring '96.	O	Up	E&D	1ST	1	30	873	873	N/A	19,300	360.00	380.00	380.00	Expected to spend \$180 MM in 1st 5 years of contract (i.e., up to Apr. 1997); In 1st two years Elf spent \$140 MM; Expl. Phase 1 (5 yrs) - \$180 MM, \$40/sq km. Expl. Phase 2 (3 yrs) - \$120 MM, \$60/sq km. Expl. Phase 3 (2 yrs) - \$80 MM, \$80/sq km; \$1 MM bonus per discovery, dev. period 20 yrs; Royalty 12.5% < 5 MMt, 13.5% 5-10 MMt, 15% > 10 MMt; Cost Oil Limit 45%.	Profit Oil Split to Elf 50% < 10 MMt, 25% 10-12.5 MMt, & 15% 12.5-20 MMt, 10% > 20 MMt; Production Bonuses: \$2 MM @ 2.5 MMt, \$3 MM @ 5 MMt, \$4 MM @ 7.5 MMt, \$5 MM @ 10 MMt, \$7.5 MM @ 15 MMt, & \$10 MM @ 20 MMt.	Elf is to circumvent export problems by selling production to nearby local refineries. With oil prices rise the Elf feels it can achieve an adequate ROI without exporting?				
Elm Oil		N/A	SOCAR	Azerbaijan	Onshore Azerbaijan	Onshore Azerbaijan	Surakhany Oil Field	Surakhany Oil Field Rehabilitation	N/A	Unknown	*1996	Reported Negotiating	NO	N/A	Elm Oil is negotiating with SOCAR to redevelop the Surakhany Oil Field near Baku	O	Up	Rehab	1ST	1															
EMCO Enterprises Inc.	USA	Conoco(USA)	Arkhangelskaya	Russia	Western Sibaria	Nenets Aut. Okrug	Ardain, Dyushevo, Otkatyn and Vost. Kalva Oil Fields	Polar Lights JV	N/A	Supply Contract			N/A	N/A	Installation of metal panel systems to provide thermal protection for E&P equipment	O	Up	S&S	2ND	0		N/A	N/A	N/A	N/A										
EMCO Enterprises Inc.	USA	Occidental(USA)	Chernogomel	Russia	Western Sibaria	Khatyn-Mansyok Aut. Okrug	Vayvegan and Vayvegan Fields	Vayvegan JV	N/A	Supply Contract			N/A	N/A	Installation of metal panel systems to provide thermal protection for E&P equipment	O	Up	S&S	2ND	0		N/A	N/A	N/A	N/A										
Energy World Trade Inc.	USA	N/A	Stavropolneftegaz	Russia	North Caucasus Province	Stavropol Krai	Pikuma Area		N/A	PSA			NO	N/A	PSA for oil field development in Pikuma area of eastern part of	O	Up	Dev	1ST	1		160	160	N/A											

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country	Host Geological or Geographical Region	Host Political Region	Host Location	Name of Project/JV	Charter Capital (\$US MM)	Contract Form	Date Signed or JV Registered	Status	Farm-in	Farm-in Notes	Project Description	O & G NG	Sector	Type	Contract Level	Acad. Upstream Project or Project Duration (Yrs)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Natural Gas Reserves (Bcm)	Acresage (Sq. Km)	Initial Investment (\$US MM)	Total Investment Low Estimate (\$US MM)	Total Investment High Estimate (\$US MM)	Financing Notes	Contract Notes #1	Contract Notes #2	Production Notes	Export Notes		
Enforce Energy Corp.	USA	N/A	Chechen Ministry of Oil & Gas	Russia	North Caucasus Province	Chechen Republic	Khayankert and Goyki-Kort Oil Fields		N/A	Service Contract		Suspended	N/A	N/A	2 year contract for the well workovers, drilling and other services in the Khayankert and Goyki-Kort Fields. Sold 3 workover rigs and was providing training in summer of 1994 — operators suspended	O	Up	Workover	1ST	1	2					100.00	100.00							
Enron Oil & Gas Inc.	USA	N/A	Latvia Gas	Latvia	Baltic Syncline		Inskulans	Inskulans Underground Natural Gas Storage Facility		Service Contract		Reported	N/A	N/A	Reconstruction of the Inskulans underground gas storage facility	NG	Up	S&S	1ST	0	0.5	N/A	N/A	N/A					Fully funded by the EBRD					
Enron Oil & Gas Uzbekistan Ltd., wholly owned subsidiary of Enron Oil & Gas Inc.	USA	Gazprom(Russia)	Uzbekneftegas	Uzbekistan	Amu-Darya Province	Bukhara and Sughdarya Oblasts				Joint Venture	Feb-96	Proposal	NO	N/A	Develop & market O&G in Uzbekistan. Proposed JV covers 16 fields in the Sughdarya and Bukhara Oblasts. Gazprom has agreed to buy all the gas & will take an equity stake; predominantly covers NG; in Apr '96 reported that JV to be formed by end-'96	O&G	Up	Dev	1ST	1	30	600	600	567		175.00	1300.00	1300.00	Enron in negotiations with EBRD and OPIC. Jun '96 reported that OPIC signed agreement with Uzbek Gov't to provide \$400 MM in financing & insurance;				Production expected by '98.	
Ensign Oil NL	Australia	N/A	Saknavorabi	Georgia	Greater Caucasus	Georgia	Nano, Saknavorabi, Mirzash, Patarash, Shikash, Tarash, Nazareli, Mikashkhe v. Sada Fields	Trans Georgian Petroleum Ltd. JV		Joint Venture	*1 Aug '94 is the start of license date	Operational	NO	N/A	JV holds a 25 year E&D license for 9,693 sq. km which includes 6 known fields.	O	Up	E&D	1ST	1	26	7	18	N/A	9,693		18.65	18.65		50/50 profit share for non-governmental part until capital recovery then 30/70				
Enterra Oil Field Services, subsidiary of Enterra Corp.	USA	Chevron	Government of Kazakhstan	Kazakhstan	Pre-Caspian Basin	Aktau Oblast	Tengiz and Karakumskoye Oil Fields	Tengizchevroil JV	N/A	Supply Contract			N/A	N/A	2 year exclusive contract to supply rental tools and services to Tengizchevroil JV	O	Up	S&S	2ND	0	2	N/A	N/A	N/A	N/A									
EPIC Energy (formerly OTM International Development Inc.) through its wholly owned subsidiary Hystepor Ltd.(60%)	Canada	N/A	Krymgeologia, State Property Fund (owned 40%)	Ukraine	Indo-Kuban Trough	Crimea	Kerch Peninsula including the Akkash Oil Field and the Crimean Plains	KrymTexas Nafta Ltd. JV / PSA		JV/PSA	Feb-93	PSA signed with HHO Ltd. in Feb-93. Operational	YES		OTM (now EPIC) formed JV with HHO on 10 Nov 94; 27 Sept '95 letter of intent with Ecumenical Resources Ltd. (a private European Company) for a 50% farm-in which expired without success	O&G	Up	E&D	1ST	1	25 + 15 yr. ext.	50	50	6	28,490	16.00	65.00	65.00	Development of Akkash Oil Field will cost \$16 MM. 1st phase \$3.6 MM, 2nd phase \$12.4 MM but 32% of the will be covered by positive cashflow. Overall expenditures over 1st five years will be \$65 MM.	Royalty = 10%, 6.25% & 4.6% on the 1st 3 fields respectively. Cost Oil = 60%; Profit of split 60/40 in favour of EPIC. 18% profit tax on those oil revenues generated in Ukraine, but most will be exported; domestic NG sales subject to 6 yr tax holiday	EPIC will supply financial, technical, and operational expertise, while Krymgeologia will supply land, mineral, & export rights			
Equity Oil Co (65%)	USA	Leucadia National Corp (USA)(45%), Coastline Exploration Co(USA)(0%)	Yeniseynerftegas geologia (owned 1), Yeniseygeophysika (owned)	Russia	Western Siberia	Krasnoyarsk Krai	Yenisey and Symkaya Blocks	Symkaya Exploration Inc. JV		JV/PSA	Dec-92	Operational	YES		In Dec 93, Equity owned (80%) of Symkaya Exploration Inc. In Feb 94, Equity acquired Coastline's shares (10%) and sold 50% to Leucadia	O	Up	Expl	1ST	1	25			4,451	12.00	12.00	12.00	Both Equity and Leucadia will invest \$6 MM each over the 1st 5 yrs. By end of '93 cumulative spending was \$17 MM including \$0.6 MM in bonuses and fees.	Symkaya recovers costs from 80% of production after paying 6% Royalty; The remaining 20% production will be split according to sliding scale tied to production					
Erda Erdas	Germany	N/A	Yurmenegeology a, Yurmennftegas	Russia	Western Siberia	Tyumen Oblast				Unknown					The 3 companies are to develop oil fields in the southern Tyumen Oblast	O	Up	Dev	1ST	0														
Eurogas Ltd (50%)	Canada	Yamalo Ltd.(Bermuda) consisted originally of Tracer Petroleum(Canada)(20%); Con Bio Resources(Canada)(20%); Dundee Bancorp Inc.(Canada)(20%); ... Buys out by Euromin Canada Ltd	Urengoyneftegas geologia(50%)	Russia	Western Siberia	Yamal-Nenets Aut. Okrug	Yaro-Yakhinskoye Oil, NG & Condensate Field	Urengoi Trace JV		Joint Venture	Apr-93	Operational	YES		Euromin Canada Ltd. bought out 90% of the original equity holders in Yamalo Ltd., Euromin completed buyout?; Yamalo/Euromin now referred to as Eurogas	O	Up	E&D	1ST	1	25	403	403	108	7,284				Trace & Dundee are partners in a Bermuda group called Yamalo Ltd. that was formed to help finance the venture; Trace invested C\$ 168,000 as per end-'93.				In Sept '93 JV inventory was 150,000 bbls.	Condensate will be exported to Finland.
Exxon Ventures (CIS), a subsidiary of Exxon Corp.	USA	N/A	Aktubinskneft	Kazakhstan	Pre-Caspian Basin	Aktubinsk Oblast	Zhanazhal Oil Field			PSA	May-96	Negotiating Proposal	NO	N/A	Initiated preliminary discussions with Kazakh Government in Jan '96 revealed that Exxon is a potential bidder for Aktubinskneft, also trying to negotiate a separate venture to develop the Zhanazhal oil field.	O	Up	Dev	1ST	1														
Exxon Neftgaz Ltd. a subsidiary of Exxon Corp.	USA	Amoco(US); Texaco(US); Norsk Hydro(US); Total(US); Elf Aquitaine(US)		Russia	Timan-Pechora	Nenets Aut. Okrug	Khore Ver Oil Fields	Khore Ver Tender		Tender	Oct-96	Proposal			6 foreign firms are expected to bid for rights to E&D the Khore Ver oil fields in Timan-Pechora; area covers 2000 sq km with 9 oil fields; est. reserves of 150 MM; tender extended to Oct '96	O	Up	Dev	1ST	1		341	341	N/A	2,000									

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country	Host Geological or Geographical Region	Host Political Region	Host Location	Name of Project/JV	Charter Capital (\$US MM)	Contract Form	Date Signed or JV Registered	Status	Form-in	Form-in Notes	Project Description	O&G NG	Sector	Type	Contract Level	Actual Upstream Project Contract Duration (Yrs)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Natural Gas Reserves (Bcm)	Acres (Sq. Km)	Initial Investment (\$US MM)	Total Investment Low Estimate (\$US MM)	Total Investment High Estimate (\$US MM)	Financing Notes	Contract Notes #1	Contract Notes #2	Production Notes	Export Notes	
Exxon Neftegaz Ltd. a subsidiary of Exxon Corp.	USA	Mobil(USA)	N/A	Russia	Western Siberia					Tender					Exxon and Mobil were to jointly pursue E&D contracts covering 86 MM acres, have not sought rights to drill, submitted tenders for bid round announced in Jan '93	O	Up	E&D	1ST	0		300	600	N/A	348,030								
Exxon Neftegaz Ltd. a subsidiary of Exxon Corp.	USA	N/A	Moreneftegaz Government of Russia	Russia	Russian Far East	Sakhalin Oblast	Shumakovskiy Block	Sakhalin IV Tender	N/A	PSA	Sep-96	Tender Closed: 28 Sept '96 announced that bid unsuccessful; terminated	NO		Shell & Amoco decided not to submit a bid.	Only Exxon submitted a bid despite initial interest shown by over 20 companies in Denver in Nov '94; bid unsuccessful as Exxon's proposal did not meet the minimum conditions set by Russian Gov't for production sharing and payment of resource fees	O	Up	E&D	1ST	1								Reported that Exxon proposed only to give Moreneftegaz 40% of production rather than 50% required by the tender plus Exxon was not willing to invest in social infrastructure.				
Exxon Neftegaz Ltd. a subsidiary of Exxon Corp.	USA	N/A	SakhalinNeftegaz	Russia	Eastern Siberia	Sakha Republic, Yakutia	Vityazkov and Nepoko-Botubinskoye oil and gas districts		N/A	Agreement	Dec-96	Reported Signed	NO	N/A		Exxon and SakhalinNeftegaz has signed an exploration deal for the Vityazkov and Nepoko-Botubinskoye oil and gas districts the Yakutia	O&G	Up	Expl	1ST	1												
Exxon Neftegaz Ltd. a subsidiary of Exxon Corp.	USA	N/A	Vostokneftegaz geology and Institut geotekhnika	Russia	Eastern Siberia	Khukht Oblast	Dudinka Field	Dudinka Field FS	N/A	Agreement	Jan-96	Reported	NO	N/A		VSNGG currently holds license for the Dudinka Field; Exxon plans to carry out a FS; if project proves viable Exxon may be offered a share in	O&G	Up	Expl	1ST	1												
Exxon Neftegaz Ltd. a subsidiary of Exxon Corp. (30%)	USA	New SODECO(Japan)(30%)	Rosneft (17%), Sakhalinmorneftegaz Of JSC(23%)	Russia	Russian Far East	Sakhalin Oblast	Chayvomo, Odoptu-more (comb. 74.3 MMt = 224.7Bcm), Arkutun-Dudinskoye (118.1MM t = 68.2Bcm) Fields	Sakhalin I	N/A	PSA	Jun-96	Signed on 30 Jun '96; 10 Jun '96 Formal Work to Start	YES		In Mar '96 New Sodeco was est. without Chevron, it will buy out old SODECO once production starts. Share holders of New SODECO: Itochu(16.9%), Marubeni(16.3%), Indonesia Petroleum and Teikoku will join.	FS done in '94, develop the Arkutun-Dudinskoye, Odoptu-more, & Chayvomo fields offshore Sakhalin; original agreement between SODECO & USSR signed in '75; 20,000 bpd oil & LNG plant planned; \$20-330 MM to be spent on appraisal drilling in summer '96;	O&G	Up	Dev	1ST	1	40	2,100	2,600	422	260.00	12700.00	15200.00	Total revenue is est. to be \$67.6 Bn unrecouped; CAPEX - \$18.2 Bn. Pay back period 13 years. IRR - 20.8%. Russian Gov't will rx \$18.4 Bn. 2 Russian participants to rx - \$6.3 Bn. Total Russian income - \$24.7 Bn (i.e. 72.4% of gross net income).	Request by SODECO for Russia to repay \$277 MM debt (\$181.4MM in credits plus \$96.5MM interest) has been dropped. Royalties set at 8%, 32% profit tax.		Reserves: 288.1 MMt oil, 31.7 MMt condensate and 422.3 Bcm of NG; Production rates may reach 26.6 MMtpy and 21 Bcmpr. Planned start-up in 2003 of 460,000 bopd +NG; 60,000 bopd + 616,000 MMt/d to be sold locally; MFE says production to reach	
Exxon Neftegaz Ltd. a subsidiary of Exxon Corp. (100%)	USA	N/A	Government of Russia	Russia	Russian Far East	Sakhalin Oblast	East Odoptu Block(4,270 sq km) and the Ayashly Block(5,050 sq km)	Sakhalin II — East Odoptu and Ayashly Block	N/A	PSA	Dec-93	Preparing FS and PSA	NO		Shell & Amoco submitted a bid as well but lost.	Exxon won 2 offshore (East Odoptu Area & Ayashly) blocks in Sakhalin II Tender in Dec '93	O	Up	E&D	1ST	1	26 + 10 yr. ext.		9,320		368.00	368.00		For the East Odoptu block — minimum expenditure of \$121 MM over 6 yrs; For the Ayashly block — minimum expenses of \$202 MM, plus bonus of \$30 MM for social infrastructure over 3yrs.	60% Cost Oil after Royalty (royalty on sliding scale with production) 60:50 profit at split, profit tax and Sakhalin development tax			
Exxon Azerbaijan Ltd. a subsidiary of Exxon Corp. (100%)	USA	N/A	SOCAR	Azerbaijan	Caspian Sea	Caspian Sea	D-3, D-9 and D-38 Blocks		N/A	PSA	Jun-96	Awarded Preliminary Rights	NO	N/A		Exxon was awarded preliminary rights to explore for oil on 200,000 acres of the Caspian Sea, includes prospective structures identified in Blocks D-3, D-9, D-38 during a seismic survey. Exxon hopes to conclude a PSA within the next six months	O&G	Up	Expl	1ST	1												
Farfield Industries Inc.	USA	N/A	Yakutskgeophysika	Russia	Laptev Sea	Laptev Sea	Laptev Sea			Joint Venture					Conduct seismic studies in the Laptev Sea in an operation called Polar	O&G	Up	Geophysics	1ST	0		N/A	N/A	N/A	N/A	0.72	0.72	0.72	Authorized investment of \$360,000 each for 1992				
Forest Oil Corp.	USA	N/A	Pennwell	Russia	Volga-Ural	Penn Oblast	Penn			Joint Venture					Explore and develop an oil deposit in southern Penn. Forest will contribute technology & equipment.	O	Up	E&D	1ST	1					0.25	0.25	0.25	US Trade & Development Agency approved partial funding of \$250,000 for an initial study on the					
Fountain Oil Inc.	USA	N/A	Ukraine National Oil Company "Ukrnafto"	Ukraine	Lviv Depression	Lviv Oblast				Joint Venture	May-96	MOU Signed	NO	N/A		Fountain signed agreement with Lviv Regional Council to enter into JV with UNOC to develop 4 fields: one of 4 fields has reserves of 60 MMbbls with current production of 280 bpd; drilling to begin a few months after signing and production within 1 year	O	Up	Dev	1ST	1	60	60	N/A	0.60	25.00	25.00	Fountain will pay \$0.6 MM to participate. After deal is signed Fountain will pay another \$0.6 MM in cash and issue 175,000 shares of common stock.					
Fountain Oil Inc. (35%)	USA	UK-Ron Oil Corp.(Canada)(10%)	Ukraine National Oil Company "Ukrnafto" (66%)	Ukraine	Dnepro-Donets Basin	Chernigov Oblast	8 Fields including the Letyaki Field	Kashan Petroleum Ltd. JV		Joint Venture	Aug-96	Agreement to Participate	YES		Aug '96 Fountain signed agreement to acquire a 36% stake in the JV;	Kashan JV to spend \$3 MM to evaluate a 54,649 sq km concession in the Priukrai Region with 8 known oil fields, initial license covers largest field, Letyaki which has 180 wells of which 40 are producing 1,000 bopd;	O	Up	Dev	1ST	1	60	60	N/A	54,649	6.70	6.70	6.70	Fountain will pay \$5.7 MM in cash and stock to gain a 36% stake.	Fountain to rx no less than 45% of the production.		1st phase is to yield incremental production of 22 MMt/d of which 7.92 MMt/d will be owned by Fountain.	

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country	Host Geological or Geographical Region	Host Political Region	Host Location	Name of Project/JV	Charter Capital (\$US MM)	Contract Form	Date Signed or JV Registered	Status	Farm-in	Farm-in Notes	Project Description	O & G NG	Sector	Type	Contract Level	Acad. Upstream (Yr)	Upstream (Yr)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Natural Gas Reserves (Bcm)	Acreage (Sq. Km)	Initial Investment (\$US MM)	Total Investment Low Estimate (\$US MM)	Total Investment High Estimate (\$US MM)	Financing Notes	Contract Notes #1	Contract Notes #2	Production Notes	Export Notes	
Fountain Oil Inc. (31%)	USA	Gastrom International (7%)	?	Russia	Northern Caucasus	Adyghe Aut. Okrug	Maykop Gas Field			Acquisition	Jun-95	Operational	YES	Fountain is acquiring a 31% stake by buying up outstanding stock of Gastrom International which held the same stake previously; deal is conditional on certain project milestones and max. payment is \$1 MM cash plus \$1MM in	In Jun. '95 Fountain of agreed to buy Gastrom's 31% stake in Maykop NG field which currently produces 2 MMcfd; Oct. '95 Fountain designated as operator and development to start '97; 2 year development program costing \$25 MM for 15 wells	NG	Up	Dev	1ST	1		4	4	14	51	8.00	25.00	25.00	Fountain is to pay a maximum of \$8 MM for the company, \$1 MM cash and one million newly issued shares of its common stock.			Field currently produces 2 MMcfd.		
Frankenburg Inc.	USA	Wellmax Inc. (USA)	Kogalymnethegas, a division of LUKoil	Russia	Western Siberia				N/A	Service Contract	Sep-91	Terminated	N/A		Frankenburg was awarded a 300 well-workover contract from Kogalymnethegas; work began Nov. '91; 113 wells were completed @ cost of \$114M/well, as payment is 103,300 tonnes of oil; 28 Jun '94 Frankenburg filed \$600MM lawsuit against LUKoil. Unsuccessful	O	Up	Workover	1ST	1	3	N/A	N/A	N/A	N/A		34.20	34.20						
Fugro-McLellan	The Netherlands	N/A	SOCAR	Azerbaijan				Azeri-Fugro JV		Joint Venture		JV Formed; Operational Report dated Aug '9	N/A	N/A	Fugro-McLellan formed the Azeri-Fugro JV with SOCAR to carry out Engineering, geological and geotechnical research	O&G	Up	SBS	1ST	0		N/A	N/A	N/A	N/A									
G&G	UK	N/A	Tatneft	Russia	Volga-Ural	Tatarstan			N/A	Agreement	Mar-94	Proposed Announced	NO	N/A	In Mar. '94 G&G & Tatneft announced plans to implement a joint project to assess oil deposits with greater accuracy; project to be finished in July, cost est. \$600-900,000 which is provided by G&G; preparations are underway for seismic surveys	O	Up	Geophys	1ST	0		N/A	N/A	N/A	N/A		0.60	0.90						
Gardoff Explorers International	USA	Eastern Services Ltd. (USA)	Uralskgeo	Kazakhstan	Pre-Caspian Basin	Uralsk Oblast	Uralsk			Joint Venture					JV to explore and develop 4 blocks with a total of 33,360 sq. miles in the Uralsk Oblast; one block has 186 MM bbls of oil, the others are virtually unexplored.	O	Up	E&D	1ST	1		186	186	N/A	86,402									
Gendor Resources	Cyprus	N/A	Mangystaumunagaz	Kazakhstan	South Mangystauk Basin	Mangystau Oblast	Altas and Turkmenoi Oil Fields	Tasbulat Oil JV		Joint Venture		JV Formed; Not operational			O&G JV formed with Western partner before 1995; as of end 1995 the JV was not working; holds license to Altas (8.4 MMbbls) and Turkmenoi (13.6 MMbbls) Oil Fields. Summer '96 accused by	O&G	Up	E&D	1ST	1		22	22						Summer '96 accused by Gov't of investing enough					
Genesis Eurasia Xaver Corp (50%)	USA	Xaver Mines Ltd. (Canada); Eagle Energy Caucasus Ltd. (South Africa); Gulf Russia Holding S.A.; Laker Resources Inc. (USA)	Shovropneftegaz PA (50%)	Russia	Northern Caucasus	Stavropol Krai	Achikskaya, Belozerskaya, Podolskaya, Urashayevskaya, Vladimirovskaya Fields	Black Gold JV		Joint Venture	*1994		YES	Beta Well Service abandoned farm-in offer in Mar. '94	In early 1994 JV formed to develop oil fields in the Stavropol region which currently has 700 wells in 18 producing fields; war in autumn 1994 has forced output to be delayed	O	Up	Dev	1ST	1		200	200	N/A		187.00	187.00	CAREX of \$187 MM over 10 years for the single largest field containing 200 MMbbls.	In Jan. '94 Beta signed a letter of intent to acquire 25%, but this was suspended; in Mar. '94 Xaver Mines Ltd. acquired 25%.			1994 Export quota: 230,000 bbls		
Geoquest	USA	N/A	Munagaz	Kazakhstan					N/A	Supply Contract	Aug-95	Signed	N/A	N/A	In Aug. '95 Geoquest was awarded a \$6.5 MM contract by Munagaz to set-up 3 geoscience computing centres; 1 at headquarters in Almaty; 1 at Embayev in Atyrau; & 1 at Mangystaumunagaz in Aktau; incl. installation of E&P unit of the Kazakh O&G Ministry	O&G	Up	SBS	1ST	0		N/A	N/A	N/A	N/A	6.50	6.50	6.50						
Geoquest	USA	N/A	LUKoil	Russia	Western Siberia	Khanty-Mansiysk Aut. Okrug	Pokhovskoye Oil Field		N/A	Supply Contract	Feb-96	Signed	N/A	N/A	LUKoil let a contract to Geoquest to supply integrated software and workstations to help develop O&G fields in the Kogalym region; \$4 MM worth of equipment will go to study the Pokhovskoye oil field	O&G	Up	SBS	1ST	0		N/A	N/A	N/A	N/A	4.00	4.00	4.00						
Geos Ltd.	Israel	N/A	Tatneft	Russia	Volga-Ural	Tatarstan				Joint Venture					Geos Ltd. and Tatneft will jointly develop a 11,750 sq km area which has reserves of 350 MMbbls in 57 fields	O	Up	Dev	1ST	1		350	350	N/A	11,750									

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GHK Co.	USA	N/A	Kubyshevsk Production Association	Russia	Volga-Ural	Samara Oblast			N/A	Unknown					In Mar '94 Kubyshevsk began seeking foreign investors for an oil prod. project with >100 MM; GHK agreed to jointly develop approx. 60MM bbls of discovered but non-producing oil reserves including restoration of 111 shut-in wells @ cost of \$15-20	O	Up	Dev	1ST	1	50	60	N/A		15.00	20.00	Decree No. 180 guarantees the right to export 60% of oil produced over the 1st 5 years of production and a exempt from both excise and export taxes during the period.						
Glencore International AG, formerly Marc Rich & Co. AG	Switzerland	INA-Naftapet (Croatia)	?	Russia	Western Siberia		West Siberian Services JV			Joint Venture					WSS will carry out workovers on 150 existing wells and drill 31 new wells	O	Up	Workover	1ST	1													
Glencore International AG (47.5%), formerly Marc Rich & Co. AG	Switzerland	N/A	Kommert JSC (47.5%), Urala Oil Refinery (55%)	Russia	Timan-Pechora	Komi Republic	Urala Field	Nobel Oil JV		Joint Venture	Oct-91	Operational	Maybe	Seeking partner to buy out Urala Refinery's 5% stake	JV to develop the Urala field and carryout tertiary EOR. In 1st 3 years 68 new wells will be drilled and 30 steam generators will be installed. Initial investment is \$40 MM over 3 years.	O	Up	Dev	1ST	1	25			40.00	400.00	600.00	JV Charter Capital = \$11.6 MM. Drilling program cost = \$40 MM; Total planned investments \$400 - 600 MM; Total investments by mid-'94 = \$65 MM.	No excise tax. JV granted oil export tax exemption on 1 Jan. '95 for a period of 1 yr.			Rare to produce 1 MMbpd by end of 25 year contract; Production: 1.83 MMbbls in '92, 1.825 MMbbls in '93, JV output = 2450-3650 bopd above field decline curve in mid-'93, 10,210 MMbbls in '94, 6,391 MMbbls in '95.	Export: 1.6 MMbbls in '92, 2,184 MMbbls in '93, 1,319 MMbbls in '94, 3,133 MMbbls in '95.	
Global Natural Resources Inc. (50%) - through its subsidiary Tarnett	USA	N/A	Tarnett (50%)	Russia	Volga-Ural	Tatarstan	Romanovo Field	Tatex JV - Romanovo Field Well Stimulation	Rbs 1 MM	Joint Venture	Nov-90	Operational	NO	N/A	JV formed on 15 Nov. 1990 - the Romanovo well stimulation project (approx. 100 wells) remains inactive pending question of ownership. In Aug '95 Global signed a new agreement for 2 additional fields to be awarded to the Tatex JV	O	Up	ECR	1ST	1											Included in below	Included in below	
Global Natural Resources Inc. (50%) - through its subsidiary Tarnett	USA	N/A	Tarnett (50%)	Russia	Volga-Ural	Tatarstan	Orskoye Field	Tatex JV - Orskoye Field Development	Rbs 1 MM	Joint Venture	Nov-90	Operational	NO	N/A	JV formed on 15 Nov. 1990 - the 2nd of two projects currently in operation is the development of the Orskoye Field. 20 new wells complete 26 existing wells stimulate 100 existing wells	O	Up	Dev	1ST	1	25	60	60		36.00	36.00	Global will provide a total aggregate loan of \$19.5 MM. Tarnett will supply a maximum amount of \$16.5 MM; Total lending to JV not to exceed \$36 MM.	Note: 50% owned by Tarnett a subsidiary of Global Natural Resources and 50% owned by Tarnett.	In Mar '95 JV is exempted from \$4/bbl export tax retroactive to 1 Jan. '95. Effective 1 Aug. '95, Excise tax will be reduced from 70,000 Rbs to 20,000 Rbs (\$13.65 to \$3.60) per	Production in Nov '92 from Orskoye field was 1,700 bopd; Production 1,116 MMbbls in '93; in Dec. '94 @ 6,500 bopd, 930,560 bbls in '94; 1,596 MMbbls in '95	Exports: 642,668 bbls in '93; 1,674 MMbbls in '94; 2,113 MMbbls in '95; JV granted oil export tax exemption on 1 Jan. '95 for a period of 1 yr.		
Global Natural Resources Inc. (50%) - through its subsidiary Tarnett	USA	N/A	Tarnett (50%)	Russia	Volga-Ural	Tatarstan	Almet'yevsk	Tatex JV - Almet'yevsk Vapor Recovery	Rbs 1 MM	Joint Venture	Nov-90	Operational	NO	N/A	JV formed on 15 Nov. 1990 - the 1st of two projects currently in operation is the installation and operation of vapor recovery equipment in fields around Almet'yevsk; recovered vapors are exchanged for export grade Volga-Ural crude	O	Up	Rehab	1ST	1										Included in above	Included in above		
Government of Iran	Iran	N/A	Government of Russia	Russia	Caspian Sea	Caspian Sea				Joint Venture	Dec-95	Proposal Only	N/A	N/A	In Dec '95 Iran and Russia agreed in principle to set-up a joint exploration and development company for the Caspian Sea	O&G	Up	E&D	1ST	0													
Government of China	China	Government of Japan	Government of Russia	Russia	East Siberia	Khuzhik Oblast	Kovytkinskoye Natural Gas Field			Protocol/MOU		Proposal Only	Likely	In Jun. '95 reported that Government of Japan may join a Sino-Russian Government proposal	China and Russia have proposed to jointly develop the Kovytkinskoye NG Field in Irkutsk. Project estimated to cost \$9 Bn to develop the resource capable of producing LNG exports of	NG	Up	Dev	1ST	1					9000.00	9000.00							
Government of Japan	Japan	N/A	Regional Government of the Amur Region	Russia	Russian Far East	Amur Oblast			N/A	Protocol/MOU	Late Autumn of 1993				Governmental Agreement signed for the joint exploration and development of natural resources in the Amur Oblast, including oil, gas,	O&G	Up	E&D	1ST	0				N/A									
Government of Russia	Russia	ONAKO (Russia)	Government of Kazakhstan, Aktyubinsk	Kazakhstan						Joint Venture	Dec-95	Proposal, Suspended?			Governments of Kazakhstan and Russia agreed on (Dec. '95) to create a transnational oil company, ONAKO of Russia and Aktyubinsk were also involved in the deal	O	Up	E&D	1ST	0	N/A	N/A	N/A	N/A									
Government of Russia	Russia	N/A	Government of Turkmenistan	Turkmenistan						Joint Venture	May-95	Proposal			State cooperation agreement to establish a JV for developing hydrocarbon projects in Turkmenistan.	O&G	Up	Dev	1ST	0													
Government of South Korea	South Korea	Korean Consortium consists of 11 Korean Companies including the Korean Petroleum Development Corp., Daewoo, Samsung and Yukong Ltd.	Government of Russia	Russia	Eastern Siberia	Sakha Republic (Yakutia)			N/A	Protocol/MOU	Jun-94	Protocol			South Korea and Russia have agreed to jointly develop a natural gas field in Yakutia; each to invest \$10 MM for a 1 yr FE; overall project cost \$15-20 Bn which will include pipelines from NG fields to Yakutsk, Khatanga, Wotan and to	NG	Up	Dev	1ST	1	1			20.00	16000.00	20000.00							
Gruneveld		N/A	SOCAR	Azerbaijan	Onshore Azerbaijan	Onshore Azerbaijan	Ramany Oil Field	Agdarmol JV		Joint Venture					Joint Venture to carry out the development of the Ramany Oil Field.	O	Up	Dev	1ST	1													

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Grynberg Production	USA	N/A	Kryazneft	Kyrgyzstan	Fergana Basin					Agreement	*1991/92		Maybe		Exclusive rights to explore and develop oil throughout Kyrgyzstan; now producing about 6000 bpd, but the area is believed to have huge potential; Grynberg's activities will include some rehabilitation	O	Up	E&D	1ST	1														
Halliburton Energy Services	USA	N/A	Kazakhstanmuna gaz	Kazakhstan				Halliburton Kazakhstan Offshore Services JV		Joint Venture	*1993?		N/A	N/A	Servicing oil fields through out Kazakhstan - import/operate pumps, stimulate flows and perform	O	Up	S&S	1ST	0	N/A	N/A	N/A	N/A										
Halliburton Energy Services	USA	N/A		Kazakhstan	Pre-Caspian Basin	Aralobinsk Oblast	Boganki y Block	Boganki y Block Tender	N/A	Service Contract		Completed	N/A	N/A	Halliburton is acting as the broker for the Boganki y exploration block; Repsol/Enterprise won see Repsol Entry	O	Up	S&S	2ND	0	N/A	N/A	N/A	N/A										
Halliburton Energy Services	USA	Canada	Akhangeliskgeol oga	Russia	Timan-Pechora	Nenets Aut. Okrug	Ardain Complex	Polar Lights JV	N/A	Supply Contract			N/A	N/A	Supply drilling muds and fluids for the Polar Lights JV	O	Up	S&S	2ND	0	N/A	N/A	N/A	N/A										
Halliburton Geophysical Services Inc., now part of Western Atlas	USA	Canada	Akhangeliskgeol oga	Russia	Timan-Pechora	Nenets Aut. Okrug	Ardain Complex	Polar Lights JV	N/A	Service Contract			N/A	N/A	Contract for HGS for a 3D seismic survey in the Nenets autonomous district of Archa Russia. will collect 1100 km of seismic data covering more than 100 sq. km on Polar Lights Ardain field. Pechoragelotska will carry out most of the work.	O&G	Up	Geoph ys	2ND	0	N/A	N/A	N/A	N/A										
Halliburton Geophysical Services Inc., now part of Western Atlas	USA	N/A	Ikhantymanyke geophysica, Yamalgeophysica	Russia	Western Siberia	Ikhantymanyk Aut. Okrug, Yamal & Nenets regions				Joint Venture					Market 750.00 km of seismic data from the Ikhantymanyk region in the south to the Yamal and Nenets regions in the north.	O&G	Up	Geoph ys	1ST	0	N/A	N/A	N/A	N/A										
Hallwood Energy Partners	USA	Hallwood Consolidated Resources Corporation	SOCAR	Azerbaijan	Caspian Sea	Caspian Sea	Mashat Field, formerly known as Muddy Hill Field (Geyazeva ya Sacka)	Hallwood Caspian Petroleum		Joint Venture	Apr-94	Operational	NO	N/A	Hallwood & SOCAR entered into an EOR JV for the Mashat Oil Field 60 miles SE of Baku in the Caspian Sea; field has hitherto produced 50 MMbbls; approx. 10.1 MM of recoverable reserves, \$65 MM to be spent on a 3 phase development	O	Up	Rehab	1ST	1	26	73	73	N/A	66.00	66.00	Hallwood expected to invest a minimum of \$5 MM up to a maximum of \$65 MM in a 3-phase development plan.	Hallwood and SOCAR to recover costs proportionally from 70% of net revenues from production above 2,700 bopd; incremental production is 950 bopd above initial production; During 1st phase profit to be			Production of time of signing was 1,750 bopd			
Handelsbank AG	Austria	Voest-Alpine AG(Austria), Lag Trade Ventures(Austria), Voest-Alpine Intertrading(Austria)	Sibirneftegaz, Nizhnevartovskn etegaz	Russia	Eastern Siberia	Sakha Republic (Yakutia)	Talakan Oil Field			Agreement					Group of Austrian banks has signed an agreement to jointly develop the Talakan oil field; FS will be ready in Aug '94, pumping station and 350km pipeline to Lensk will be built between 1994/97, 600,000 tpy refinery will be built in Lensk	O	Up	Dev	1ST	1														
Hardman Resources	Australia	Key Petroleum(Australian); Border Petroleum(Australian); Stirling Resources NL (Australian) (all combined 50%)	Vostochnygeologiya (50%)	Russia	Russian Far East	Sakhalin Oblast	Prilivnaya Block	Sakhalin Petroleum (Cyprus) Ltd. JV - Prilivnaya Licence		Joint Venture	Apr-94	New JV formed Nov '95; Operational	YES		Sakhalin Petroleum formed in Nov '95 - acquired 50% interest two licences (Prilivnaya & Kholmik) from Hardman Resources, Key Petroleum and Border Petroleum in exchange for \$0.45 MM in ordinary & preference shares	O	Up	E&D	1ST	1	600	600	0	167										
Hardman Resources	Australia	Key Petroleum(Australian); Border Petroleum(Australian); Stirling Resources NL (Australian) (all combined 50%)	Vostochnygeologiya (50%)	Russia	Russian Far East - Sakhalin Island	Sakhalin Oblast	Kholmik Block	Sakhalin Petroleum (Cyprus) Ltd. JV - Licence not yet decided		Joint Venture	Nov-93	New JV formed Nov '95;	YES		Sakhalin Petroleum formed in Nov '95 - acquired 50% interest two licences (Prilivnaya & Kholmik) from Hardman Resources, Key Petroleum and Border Petroleum in exchange for \$0.45 MM in ordinary & preference shares	O	Up	Expl	1ST	1	100	100	0	1,000										
Hardman Resources	Australia	Key Petroleum(Australian); Border Petroleum(Australian); Stirling Resources NL (Australian)	Vostochnygeologiya, Sakhalinmometegaz	Russia	Russian Far East	Sakhalin Oblast	Kholmik Block	Sakhalin Petroleum (Cyprus) Ltd. JV - Kholmik Block Licence		Joint Venture	Nov-95	Proposal			Proposal to form a bidding group for an additional on-shore licence	O	Up	Expl	1ST	0														
Hirata	Japan	N/A	Nizhnevartovskn etegaz	Russia	Western Siberia					Supply Contract					A \$2 MM contract signed for the purchase of valve fittings for one of Nizhnevartovskn etegaz PA. Hirata has supplied Russian oil companies with valve fitting and generators for several years	O	Up	S&S	1ST	0	N/A	N/A	N/A	N/A	2.00	2.00								

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HITEC	Norway	DeNorte Veritas(Norway)	SOCAR	Azerbaijan	Caspian Sea	Caspian Sea	Chirag, Azel and Deep Water Section of the Guneshli Fields	AIOC	N/A	Service Contract		Reported Aug '96	N/A	N/A	HITEC and NetNorse Veritas (both of Norway) have a drilling service contract with SOCAR; part of AIOC's project	O&G	Up	S&S	2ND	0	N/A	N/A	N/A	N/A									
Hollander			SOCAR	Azerbaijan	Onshore Azerbaijan	Onshore Azerbaijan	Binagadi Oil Field	Binagadi Oil Field Rehabilitation	N/A	Unknown	*1996	Reported Negotiating	N/A	N/A	Hollander is reported to be negotiating with SOCAR to carry-out the rehabilitation on the Binagadi onshore oil	O	Up	Rehab	1ST	1													
Hydro Technology	Ireland	Nycoal(USA)	Neftedacha	Russia					N/A	Service Contract		Operational	N/A	N/A	In Dec '95 Nycoal agreed to invest \$250,000 in Hydro Technology or Ireland to help in market the hydroimpact technology of Neftedacha which is used for EOR; Nycoal (USA) owns 40% of Hydro Technology	O	Up	S&S	1ST	0	N/A	N/A	N/A	N/A	0.25	0.25	0.25						
Hydroscience Inc., division of Whitehall Corp.	USA	N/A	Gascomplacim per	Russia					N/A	Service Contract			N/A	N/A	Upgrade the data acquisition systems on the Professor Polshkov Marine Seismic Vessel, one of two vessels Hydroscience is upgrading for the Russian Firm. Should be completed	O&G	Up	S&S	1ST	0	N/A	N/A	N/A	N/A									
Hyunda Consortium	South Korea	N/A	?	Russia	Pre-Caspian Basin	Kalmykia				Unknown		Operational			Production of 20,000 bopd in 1994.	O	Up	Dev	1ST	1	3,600	3,600	N/A								Production of 20,000 bopd in '94;		
Inchcape Testing Services-Caleb Brett	UK	N/A	Azerbaijan Gas Petroleum Institute	Azerbaijan			Baku			Protocol/MOU	May-94				MOU was signed in May'94 to set up a national laboratory for gas and	O&G	Up	S&S	1ST	0	N/A	N/A	N/A	N/A					Company was set-up with money from the World Bank				
Intrade GmbH	Germany	N/A	Kondpetroleum JSC, Nefteservice	Russia	Timan-Pechora	Komi Republic	Veyakotshnyskye Field	Nord JV		Joint Venture		Operational	NO	N/A	JV expected to produce 92,400 tonnes of gas condensate which can be exchanged for crude for export purposes, produced 63,300 tonnes of condensate in 1993 and exported 45,000 tonnes of oil; in 1995 JV put Veyakotshnyskye Field on	O&G	Up	Dev	1ST	1											Production: 460,191 bbls in '93; 659,700 bbls in '94; 0 bbls in '95;	Exports: 327,877 bbls in '93; 223,189 bbls in '94; bbls in '95;	
Input/Output Inc.	USA	N/A	Central Geophysical Expedition	Russia						Supply Contract			N/A	N/A	Sold eight System two MDX land seismic data acquisition systems for use in Siberia to a division of the Ministry of Fuel and Energy, two more sold to regional geophysical contractors	O&G	Up	S&S	1ST	0	N/A	N/A	N/A	N/A	11.60	11.50	11.50						
Input/Output Inc.	USA	?	?	Russia						Joint Venture		Proposal			Possible JV. Representative is INGEORussia) which leases, manufactures, maintains and repairs geophysical instruments and field equipment	O&G	Up	Geophys	1ST	0	N/A	N/A	N/A	N/A									
Integrated Geoscience Technology Inc.	USA	Variety of US Firms	Variety of Domestic Firms	Russia						Service Contract			N/A	N/A	Provides interpretation services and software products for companies involve in E&P in FSU Developed Log Analysis and software programs for Russian style logging tools.	O&G	Up	S&S	2ND	0	N/A	N/A	N/A	N/A									
International Building System	USA	Conoco	Arkhangelskgeologia	Russia	Timan-Pechora	Nenets Aut. Okrug	Ardain Complex	Polar Lights JV		Supply Contract			N/A	N/A	Manufacture living quarters for the Polar Lights joint	O&G	Up	S&S	2ND	0		N/A	N/A	N/A	N/A								
International Business Machines - IBM	USA	N/A	Munagaz	Kazakhstan					N/A	Supply Contract	Nov-95	Signed	NO	N/A	In Nov '95 IBM won a \$2 MM contract from Munagaz to supply computers, software and UNIX workstations to perform oil reservoir modeling functions	O&G	Up	S&S	1ST	0	N/A	N/A	N/A	N/A		2.00	2.00						
International Business Machines - IBM	USA	Intera(Canada), Regard Research(Norway)	Ministry of Fuel and Energy and 32 Russian Oil Companies	Russia			Moscow?	Central Geophysical Expedition Centre		Service Contract		Operational as of Dec '93			Centre opened in Dec '93, equipped with IBM technology and software by Schlumberger's Intera. Norway's Regard Research and several Russian companies; COMCOM licensed IBM to supply Russia with vector processing; carryout processing and 2-3D modeling	O&G	Up	Geophys	1ST	0	N/A	N/A	N/A	N/A	20.00	20.00	20.00				Centre financed by 32 Russian Oil Companies.		
International Diamond Drilling IDO	USA	British Gas plc.	Komniet JSC, Ukhaneftegazologia	Russia	Timan-Pechora	Komi Republic	Yertiny Vozey and Vozey Oil Fields	KomArche Oil JV	N/A	Service Contract	Aug-95	Operational	N/A	N/A	International Diamond Drilling secured a two year service contract with KomArcheOil to provide coring and equipment and	O	Up	S&S	2ND	0	2	N/A	N/A	N/A	N/A								

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International Diamond Drilling - IDO	USA	Occidental	Ukhaneftgazgeologia	Russia	Timan-Pechora	Komi Republic	Block 16 and Sev. Kozhinskoye and Yuzh. Lyzha Fields.	Paramonoff JV	N/A	Service Contract		Operational	N/A	N/A	Service Contract with the Paramonoff JV	O	Up	S&S	2ND	0		N/A	N/A	N/A	N/A									
International Management and Engineering Group - IMEG	Switzerland	N/A	Tamirneft, Tamirneftgazgeologia	Russia	Western Siberia	Tamir Oblast	Pudinskoye and Parabelskoye Fields	Pudinskoye and Parabelskoye Development Block		Joint Venture	Apr-94	Tender won Apr-94; Terminated	N/A	N/A	In Apr-94 IMEG won the '92 int'l tender to E&D the Pudinskoye Parabelskoye Block includes 20 minor oil deposits; prod. to begin 3 yrs of start; expl. period a 6 yrs; to be signed before Jul-94; RF Supreme Court annulled the decision terminated	O	Up	E&D	1ST	1	6 +	160	160	N/A	2,870	8.50	64.50	64.50	IMEG offered \$46 MM and \$8.5 MM in bonus in a five year investment for exploration.	Russian side is entitled to 25% of production; IMEG is entitled to 75%; In Nov. '95 RF Supreme Court annulled decision due to tendering impracticable and canceled condition that winner had to form a JV with Tamirneftgazgeologia; Maybe re-				
International Tool & Supply, US subsidiary of New London plc. (UJO)	USA	N/A	Chernogomoff	Russia						Supply Contract			N/A	N/A	Selected by Chernogomoff as the exclusive buyer of drilling and production machinery of an OGFA project.	O	Up	S&S	1ST	0		N/A	N/A	N/A	N/A		57.80	57.80	US Embargo, in Sept. 1994, agreed to provide a credit of \$57.8 MM to Chernogomoff for the purchase of well workover and drilling equipment; Feb-96 USEDM approved debarment of \$41.1 MM to ITS which will ship equipment for					
Invest Leasing (I95)	Czech Republic	N/A	Udmurtneft PA (S192)	Russia	Volgo-Ural	Udmurtia	Byginskoye, Oshvorskoye, Dmitrievskoye and Yesserskoye Oil Fields	Uraloil JV		Joint Venture	Aug. 1992?	Operational	NO	N/A	JV to develop four fields	O	Up	Dev	1ST	1												Production: 14,600 bbls in '92; 260,610 bbls in '93; 1,273 MMbbls in '94; 1,896 MMbbls in '95;	Export: 145,270 bbls in '92; 247,700 bbls in '93; 1,234 MMbbls in '94; 1,662 MMbbls in '95; Denied export tax exemption despite recommendation by Interdepartmental Commission.	
Itchu	Japan	N/A	Government of Turkmenistan	Turkmenistan	Amu-Darya Province	Mary Oblast	Gambat Gas Field			Joint Venture	Aug-96	Proposed Report	NO	N/A	Itchu has made a Proposal to jointly explore & develop the Gambat Block including the Gambat NG Field in the Mary Oblast, south of the Yankar Field; UNOCAL (US) previously did the same.	NG	Up	E&D	1ST	1		N/A	N/A	1,000										
Itch	Japan	Slovnaf (Czechoslovakia?)	Nizhnevartovskneftgaz	Russia	Western Siberia	Khaty-Mansyik Aut. Okrug	Nizhnevartovsk			Service Contract					Oil field development of 40,000 bopd production planned for 1993	O	Up	Dev	1ST	1														
Japan National Oil Company - JNOC	Japan	N/A	Government of Kazakhstan	Kazakhstan	North Ustyurt Basin	Kyzyl-Orda Oblast	Aral Sea		N/A	Service Contract	Apr-94	May-94 Agreement Report & Operatio	NO	N/A	JNOC has signed a contract to conduct a 3-year seismic survey over a 10,000 sq. km area north east portion of the Aral Sea, estimated cost is \$6.3 Bn.	O&G	Up	Expl	1ST	1	3				10,000	63.00	63.00	63.00						
Japan National Oil Company - JNOC	Japan	N/A	Sakhanneftgaz	Russia	Eastern Siberia	Sakha Republic (Yakutia)	Nepoko-Bolobinskoye Field		N/A	Agreement	Dec-95	Report of Signed	NO	N/A	JNOC and Sakhanneftgaz has signed an exploration deal for the northwestern part of the Nepoko-Bolobinskoye Field in	O&G	Up	Expl	1ST	1														
Japan National Oil Company - JNOC	Japan	N/A	Turkmenistan Ministry of Oil & Gas	Turkmenistan	Caspian Sea	Caspian Sea	Caspian Sea	South Caspian Study	N/A	Agreement	*1996	Report of Negotiating	NO	N/A	Reported in 1996 that JNOC was negotiating with the Turkmenistan Ministry of Oil and Gas to carry out a study of the Southern Sector of the Caspian Sea	O&G	Up	Expl	1ST	1														
JIX Oil & Gas plc. (30%)	UK	Shell Oil (UK/Neth) (20%)	Sakharovskaya (50%)	Georgia	Rioni Basin (onshore & offshore) and Kartli Black Sea	Black Sea and Kartli Depression	Rioni Basin & Kartli Basin	JIX Navtobi/Georgia British Oil Co. PSA	N/A	PSA	*1996	PSA Signed & Operational	YES		In July 1995 Pecten International, a subsidiary of Shell, formed-in for a 40% working interest in the foreign participation of the onshore and offshore Rioni Basin Licenses; value of the transaction not disclosed. JIX retains 60% of contractor interest	O&G	Up	E&D	1ST	1	25	100	160	N/A	23,000	14.00	14.00	14.00	As of end '95, JIX had spent \$14 MM on onshore exploration.					
JIX Oil & Gas plc. (30.6%)	UK	Grynberg Production (USA) (7%)	Dagnett (30%), Ros-Casneft (39.6%), the latter which consists Rosneft, Lukoil, Krasnodar and a Construction Yard in Astrakhan	Russia	Caspian Sea	Caspian Sea	Inchikine-More Block, includes Inchikine-More Field	Caspian JV		JV/PSA	Aug-93	JV registered Jan. '96	YES		This JV superseded an early proposal by Grynberg Production (US) to carry out a similar development	JV will develop the 60 MMbbls Inchikine-More field. Project will cost \$100-142 MM with 566 MM being spent on two drilling platforms; further exploration will be carried out in adjacent areas; likely	O	Up	E&D	1ST	1		60	60	N/A	136	100.00	142.30				1st production expected in '96 by sending oil onshore by pipeline.		

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JOC Oil & Gas plc. (45%)	UK	N/A	SPE Chernomorneftegaz (55%) representing the State Property Fund	Ukraine	Black Sea	Black Sea	Offshore Deltin-A Block	Citmean Petroleum Co. JV		Joint Venture	Mar-93	Operational	NO	N/A	Expl. & Appraisal Licence issued to JV for offshore "Deltin" Area on 1 Oct '93. Includes 6 known oil and gas deposits. Area may be extended to 4,600 sq km: area contains an estimated 1,500 MMbbls OGP	O&G	Up	Expl	1ST	1			2,600		43.00	43.00	JP Kenny Espro contributes hard currency and western equipment; CMG contributes Ukrainian Kanbavanset and local equipment and services.			Production expected to reach 19,000 bopd by the year 2000.		
JOC Oil & Gas plc. (45%)	UK	N/A	Poltava Gazprom (51%) representing the State Property Fund	Ukraine	Dnestr-Danets Basin	Poltava Oblast	Novo-Nikolaevskoye Complex, including the Ignatovskoye, Malchanskye, Rudentovskoye and Novo-Nikolaevskoye Fields	Poltava Petroleum Co. JV		Joint Venture		Operational	NO	N/A	JV holds five licenses to develop the Novo-Nikolaevskoye complex; ERF supplied by Espro to process up to 7,900 bopd; Area may be extend to 10,000 sq. km; commercial prod. began in Oct. '95.	O&G	Up	Dev	1ST	1	100	100	31	2,500		285.00	300.00	EBRD approved a loan of \$8 MM to the PPC JV to finance the drilling of 4 new wells and build a pipeline and rail export facility in Apr. '95. Signed and first draw-down occurred in Apr. '96: All CAPEX in 1995 funded by equity.	JV confirmed to be zero rated for purposes of Resource Rental Fee; Siding scale bonus: 80.5 MM when reserves of Poltava license are presented: \$1MM when cum. prod. > 15MMbbls; \$2MM when cum. prod. > 50MMbbls; \$4MM when cum. prod. > 100MMbbls.		Targeted production is 20,000 bopd of oil and 200 MMcfd of NG.	
JOC Oil & Gas plc. (50%)	UK	N/A	Azerigas, Giproamneftegaz, State Petroleum Institute for Geotechnology and Chemistry (combined 50%)	Azerbaijan	Caspian Sea	Caspian Sea	Baku	Baku JP Kenny JSC		Joint Venture	Jun-94	Operational	NO	N/A	JV will provide state-of-the-art engineering and construction expertise to Western and Azer oil and gas clients engaged in onshore and offshore field developments and rehabilitation projects in	O&G	Up	S&S	1ST	0	N/A	N/A	N/A	N/A								
JOC Oil & Gas plc. (50%)	UK	N/A	Saknavtobi (50%)	Georgia	Greater Caucasus			Georgian British Oil Company JV		Joint Venture	Sep-96	JV Formed	NO	N/A	JOC formed a 50:50 JV with Saknavtobi called the Georgian British Oil Company to pursue upstream oil and gas	O&G	Up	E&D	1ST	0												
JOC Oil & Gas plc. (50%)	UK	N/A	Daghest (50%)	Russia	North Caucasus Province	Dagestan	Ach-Su and Seli Fields and Sulay Khutan Block	Dagoco JV		Joint Venture	Sep-93		NO	N/A	JV is to redevelop a small onshore oil fields which were abandoned 25 years ago; Ach-Su field is still producing a small amount of oil. Also exploration of the Sulay Khutan Block (55 sq.	O	Up	Rehab	1ST	1	20	6	6	N/A	66						1st Production expected in June '94 from Ach-Su well - serving?	
JOC Oil & Gas plc. (51%)	UK	N/A	Saknavtobi (49%)	Georgia	Greater Caucasus		Ninotsminda and Rustavi Fields plus the Mahavi Prospect	JOC Ninotsminda a PSA	N/A	PSA	*1996	PSA Signed Operational	NO	N/A	JOC concluded the 1st PSA in Georgia: license covers 32 sq. km; operator is JOC's JV - Georgian British Oil Company; production commence in 1996; JOC holds 51% of contractor interest	O	Up	E&D	1ST	1	50	50	N/A	32	25.00	25.00	50.00				Production commenced in '96: Estimated to be 3,000 bopd by year end.	
John Brown Engineers & Contractors	UK	N/A	Giproamneftegaz	Azerbaijan						Joint Venture	May-94				JV to bid together for work in the Caspian Sea offshore platforms. JV raised by SOCAR in May'94; the group wants to build offshore platforms for the Chirag and Azer fields once the consortium agreements are finalized.	O	Up	S&S	1ST	0	N/A	N/A	N/A	N/A								
Joy-Lud Distributors International Inc. (45%)	USA	N/A	Ulyanovskgeoneft (45.5%), Neftekhimproekt JSC (1.5%)	Russia	Moscow Syncline ?	Kaluga Oblast ?	Ulyanovsk Region	JoyLudneft JV		Joint Venture					To develop oil reserves and workover idle wells on the territory of Ulyanovsk Region	O	Up	Dev	1ST	1												
JVS International Inc.	USA	N/A	Komineft	Russia	Timan-Pechora	Komi Republic		Oil Progress JV	\$50,000 - \$60,000	Joint Venture		Operational																		Production: 38,094 bbls in '93, 34,169 bbls in '94, 0 bbls in '95.		
KAT Oil GmbH (40%)	Germany	N/A	Kogalymneftegaz JSC (60%)	Russia	Western Siberia			Katkonneft JV		Joint Venture	*1989	Operational	NO	N/A	Service JV formed to carryout hydrofracturing and rehabilitation on 3 Tyumen oil fields; Restored 19 wells in 1993 @ a cost of \$772,000 per well	O	Up	ECR	1ST	1				14.70	14.70	14.70		Obligation to refine 40% of Production in Russia.		Production: 7.34 MMbbls in '93	Export: 1.2 MMbbls in '92, 3.42 MMbbls in '93, 7.924 MMbbls in '94; 3.64 MMbbls in '95; One of 4 JV's originally exempted from paying \$36 per ton	
KAT Oil GmbH (40%)	Germany	Meko Finance and Trading (Belgium) (1)	Megomneftegaz JSC	Russia	Western Siberia			Mekamneft JV		Joint Venture		Operational	NO	N/A	Service JV to carry out workovers and hydrofracturing in Megon Area in Western Siberia	O	Up	ECR	1ST	1											Exports: 1,545 MMbbls in '93; 1,980 MMbbls in '94; 7.32 MMbbls in '95; JV granted oil export tax exemption on 1 Jan '96 for half a	
L.O. Scandinavia	British Virgin Islands	N/A	Langeparneftegaz as a subsidiary of LUKoil	Russia	Western Siberia				N/A	Service Contract		Operational	N/A	N/A	L.O. Scandinavia had a well-workover contract with Langeparneftegaz. In 1993 L.O.S. restored 160 wells at a cost of over \$127,600/well. L.O.S. plans to rehabilitate another 300 in 1994.	O	Up	Workover	1ST	1	N/A	N/A	N/A	N/A	60.00	60.00	60.00					
Landmark Graphics Corp.	USA	Halliburton (USA)	Gazprom	Russia					N/A	Supply Contract		Operational	YES	July'96 reported that Halliburton would buy Landmark in a stock transaction for about \$557.34M.	\$2.2 MM contract to Landmark to supply 3 geo-computing systems, one each in Moscow, Urengay and Tyumen	NG	Up	S&S	1ST	0	N/A	N/A	N/A	N/A	2.20	2.20	2.20					

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Lapidoth Oil Company	Israel	N/A	Government of Kazakhstan	Kazakhstan	North Ustyurt Basin	Kay-Ozda Oblast and Akobinsk Oblast	Aral Bkds			Joint Venture		Not yet confirmed?			Lapidoth is in the advance stage of negotiations to form a JV to explore and develop the Aral Sea Region; Initial agreement is for five years with a minimum investment of \$25 MM. (see also JNOC - same)	O&G	Up	Expl	1ST	1	6			22,533	25.00	25.00	25.00						
LARMAG Energy Assets (20%) a subsidiary of Larmag Energy NV	Netherlands	Dragon Oil (Ireland) (30%); International Petroleum Corp. (Canada) (5%)	Balkanneftgaz enagaz (50%); formerly Balkanneftelkum prom	Turkmenistan	Caspian Sea	Caspian Sea	Cheleken-II Block; Lam. Zhdanova and Pichetkele n Fields	Larmag Cheleken JV		Joint Venture	May-94	Won tender in Jan. '93; JV formed in '93; Operational	YES	In July '95 IPC agreed to 30% farm-in; Oct. '95 farm-in failed because gov't did not allow IPC's demand for operations; Oct. '95 Dragon Oil agreed to 30% farm-in	Won tender in Jan. '93 for Cheleken-II Sea Block; Rehabilitation of 100 wells to boost production; In Nov. '94 Larmag suspended agreements with all Western contractors; project progressing but slowly	O&G	Up	Rehab	1ST	1	25	230	320	53	950	50.00	50.00	50.00	Larmag to invest \$50 MM in 1st 3 yrs; Paid \$15.25 MM in signature bonus; IPC was to provide \$25 MM for the next 2 yrs; When IPC pulled out it rx \$13.2 MM in compensation from LARMAG; Dragon to advance \$13.3 MM to Larmag with further	Contract renegotiated in Sept. '94; Under older terms JV was permitted to let production drop by 20% over period to replace old equipment; Under new terms only 10% drop permitted of which Larmag is entitled to 25% of		Plans to increase production to 80,000 bopd; Production in July '95 was 8,200 bopd & 23,000 cfd	1st export by sea in 70 yrs from Turkmenistan started in Feb. '95; Larmag had its export license revoked in July 1995 and has been supplying the Turkmenbashi Refinery in return for credits once its export license renewed.
Lockheed Martin Corp. through its subsidiary Perry Technologies	USA	N/A	Rosneft	Russia	Timan-Pechora	Barents & Pechora Seas	Barents & Pechora Seas		N/A	Service Contract	Jan-96	Signed	NO	N/A	Lockheed Martin to carry out a FS for the use of underwater robotic equipment for work on oil & gas projects in the Barents & Pechora Seas	O&G	Up	S&S	1ST	0		N/A	N/A	N/A	N/A	0.30	0.30	0.30	US IDA announced in Jan. '96 it would supply a grant of \$300,000 to Rosneft for the feasibility study.				
Longreach Gold Oil Ltd.	Australian	N/A	YUG	Russia	Pre-Caspian Basin	Astrakhan Oblast			7	Joint Venture					JV with Yug, a Russian financial company in Astrakhan, which is licensed for two blocks on the west side of the Volga-River	O&G	Up	E&D	1ST	1				4,000									
LUKoil	Russia	N/A	SOCAR	Azerbaijan	Onshore Azerbaijan	Onshore Azerbaijan	Bibi-Eibat Oil Field	Bibi-Eibat Development	N/A	Protocol/MOU	May-96	Proposed	N/A	N/A	May 1996 reported that LUKoil is in negotiations with SOCAR for the joint development of the onshore Bibi Ebat Oil Field; of the 380 wells of Bibi Ebat only half are operational and operating well below	O	Up	Dev	1ST	1	58	58											
LUKoil	Russia	N/A	SOCAR	Azerbaijan	Caspian Sea	Caspian Sea				Protocol/MOU	Sep-95				Preliminary Agreement to cooperate in financial, technical, and joint processing of geological data on potentially commercial offshore	O&G	Up	Dev	1ST	0													
LUKoil	Russia	Rosneft (Russia)	?	Kazakhstan				Vostochny JV		Joint Venture	*1996	Suspended Feb. '96	Likely		LUKoil, Rosneft & some Kazakh petroleum companies formed the Vostochny JV; late Feb. '96 reported JV suspended due to lack of cash	O	Up	Dev	1ST	0													
LUKoil	Russia	N/A	Turkmenistan Ministry of Oil and Gas	Turkmenistan	Amu-Darya Province	Lebap Oblast	Karakum Group of Fields	Karakum Protocol		Protocol/MOU	*1994	Proposed	NO	N/A	LUKoil undertook negotiations with the O&G Ministry of Turkmenistan concerning co-operation in development of the oil and gas fields in the Central	O&G	Up	E&D	1ST	1													
LUKoil	Russia	N/A	Uzbekneftgaz	Uzbekistan	Amu-Darya Province	Bukhara Oblast	Adamash, Imankala, Burakbur, Dzhakudul, Gumbulak, Pochkama r, Burakbur Vost., Tandyrocha Yush, Zatar Fields	LUKoil/Uzbekneftgaz JV		Joint Venture	Feb-94	JV formed	NO	N/A	JV registered in Feb. '94 to develop gas condensate deposits; undertake geological prospecting, invite investments, provide transportation of fuels and supply provisions; as of Jan. '96 work had not started	O&G	Up	Dev	1ST	0													
LUKoil (32.5%)	Russia	AGIP (Italy) (30%); Petrotek (USA) (30%)	SOCAR (7.5%)	Azerbaijan	Caspian Sea	Caspian Sea	Karabakh Field	Caspian International Petroleum Co. - Karabakh PSA	N/A	PSA	Mar-96	Contract Signed, PSA signed 9-10 Nov. '9 & Ratified Feb. '96	Maybe	On 14 Nov. '95 it was reported that UNOCAL is apparently threatening court action to obtain an equity share based on prior commitments from SOCAR	In Jun. '95 the 4 companies signed an agreement to develop the Karabakh oil field (120km offshore, in 600 ft water); CIPC formed in Jun. '96 to carry-out PSA; Reserves estimated to be in excess of 1 Bn bbls	O	Up	Dev	1ST	1	3 yr. expl. 25 yr. dev + 5 yr. extension	620	1,090	0		1700.00	1800.00	AGIP is supposed to provide the bulk of the financing	Azerbaijan will rx 50% of profit oil	Note: seems a possible Azerbaijan-Turkmen jurisdictional dispute over the Kapaz field has excluded the latter from the deal although it was originally considered.	Production to begin in '97. Exploration wells indicate production capacity of 1000 to 17,290 bopd; peak production may be as high as 4.5MMtpy		
LUKoil (50%)	Russia	N/A	Yushneftgaz (50%)	Kazakhstan	Turgay Depression	Dzhendzhan Oblast	Northern part of Kunkul Oil Field	Kunkul/LUKoil JV		Joint Venture	Aug-96	Signed	NO	N/A	Apr. '96 cooperation agreement signed; 17 Aug. '96 JV formed to develop northern part of Kunkul oil field and supply crude to Pavlodar and Chimkent Refineries which are currently fed by Western Siberian oil. (See Humane Oil-conflict?)	O	Up	Dev	1ST	1		305	305	0		300.00	300.00	LUKoil also plans to buy an equity stake in the Chimkent refinery.	Two companies will share development costs and profits equally	Note: LUKoil's 1st major venture into Kazakhstan	Output of Kunkul which had until now be operated by Yushneftgaz had been at 40,000 bopd but had been suspended for cash crisis. Production to begin in '96. Peak production of 2 MMtpy (approx.		

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M.W. Kellogg subsidiary of Dresser Industries	USA	Nishio Iwai Corp.(Japan)	Neftegaz(100%)	Uzbekistan	Amu-Darya Province	Kashkadarya Oblast	Kokdumalak Oil and Gas Fields	Kokdumalak NG Injection Plant	N/A	Service Contract		Ongoing	NO	N/A	Construct a \$200 MM gas injection plant for the Kokdumalak oil & condensate field. Output will be increased from 2 MMbbl to 4.5 MMbbl and eventually to 6.5 MMbbl. Work started in Aug.'94 and should be completed in early 1996.	O&G	Up	Dev	1ST	1		200	260			200.00	200.00	USEXIM - \$50MM, JEXIM - \$85 MM; Uzbek to supply the rest; In Jun.'95 JEXIM and Vnesheconombank signed \$85 MM loan agreement to buy equipment, 30% of purchases to come from Nishio Iwai and	Project is 100% owned by the Uzbeks.					
MAI Consultants Ltd.	UK	N/A	SOCAR	Azerbaijan	Caspian Sea	Caspian Sea	Caspian Sea	Caspian Sea Study	N/A	Service Contract		Completed	N/A	N/A	In May '95 MAI completed a major study of Caspian Sea developments over the next 15 yrs.	O&G	Up	S&S	1ST	0		N/A	N/A	N/A	N/A									
Makol Inc.	USA	N/A		Georgia	Greater Caucasus		Ninotaminda			Unknown					Makol will invest \$15 MM in equipment and \$ 5 MM in funding to redevelop an oil field at Ninotaminda, near Samgori Oil field. Drilling should start in Aug. 1993.	O	Up	Dev	1ST	1		70	84	N/A		20.00	20.00	20.00						
Mannesmann KTI GmbH	Germany	N/A	Gazprom	Russia	Pre-Caspian Basin	Astrakhan Oblast	Astrakhan Gas Condensate Field		N/A	Service Contract					Gazprom is working with Mannesmann for feasibility study of the construction of the third stage of the Astrakhan gas condensate field development.	NG	Up	Dev	1ST	1														
Marx Petroleum	UK	N/A	Tatneft	Russia	Volga-Urals	Tatarstan	Includes Bakhchisarai and Yelanskoye Oil Fields			Joint Venture					JV to develop a 7000 sq. km area including 9 oil fields; immediate plan is to complete 2 developments near Yelabuga —Bakhchisarai (39 MMbbls) & Yelanskoye (16MMbbls); boost output from 800 bopd to 30,000 bopd by year end 1993	O	Up	Dev	1ST	1		820	820	N/A	7,000							Plan is to increase production to 30,000 bopd by end of '93 from 800 bopd.		
Max International	British Virgin Islands	N/A	Kogalymnietegas, a subsidiary of LUKoil	Russia	Western Siberia				N/A	Service Contract	before 1993	Operational	NO	N/A	Max International has a service contract with Kogalymnietegas; restored 3 wells @ \$200,000/well in 1993; plans to rehabilitate 240 wells in 1994	O	Up	Wkover	1ST	1		N/A	N/A	N/A	N/A		48.60	48.60						
Matus Energy Corp.	USA	N/A	Yakutskgeophysika	Russia	Eastern Siberia	Sakha Republic (Yakutia)			N/A	Agreement			NO	N/A	Evaluation agreement to study 3 promising areas within Yakutia; 4 yr. work program and a min. expenditure of \$1.5 MM	O&G	Up	Expl	1ST	1	4					1.50	1.50	1.50						
Metro Services Ltd.	UK	N/A	Gazprom	Russia	Western Siberia				N/A	Supply Contract	May-94		N/A	N/A	Metro received a \$300,000 contract from Gazprom to provide flow metering equipment to be used to upgrade facilities in Sibeng	NG	Up	S&S	1ST	0		N/A	N/A	N/A	N/A	0.30	0.30	0.30						
Michael Baker Corp.	USA	Conoco	Akhangelogeologia	Russia	Timan-Pechora	Nenets Aut. Okrug	Ardain Complex	Polar Lights JV	N/A	Service Contract			N/A	N/A	Open ended contract to provide technical assistance for construction of a 40-mile pipeline for the Ardain oil field	O	Up	S&S	2ND	0		N/A	N/A	N/A	N/A									
Mike Mullen Energy Equipment	USA	Chevron	Tengzmetegas	Kazakhstan	Pre-Caspian Basin	Alytau Oblast	Tengiz and Korolevskoye Oil Fields	Tengizchevroil JV	N/A	Supply Contract			N/A	N/A	Supply oil-welder drilling rig for the Tengiz project; 3,000 HP land rig with depth capability of 30,000 ft.	O	Up	S&S	2ND	0		N/A	N/A	N/A	N/A									
Mineralimpex	Hungary	N/A	Gazprom	Russia	Western Siberia	Yamal-Nenets Aut. Okrug	Yamburg NG Field		N/A	Barter	Mar '94	Agreement reached	NO	N/A	Mineralimpex to rx equivalent of 2.8 Barmy in convertible currency @ world market prices; Hungary will receive 2 Barm from Yamburg as repayment for Hungarian investment into the development of the	NG	Up	Dev	1ST	1		N/A	N/A	2,650										
Mineralimpex	Hungary	Sent Holding Ltd.(Canada)	Chekmagushskoye PA, PA of Ural-Siberian Oil Pipelines	Russia	Western Siberia			Bashmneral JV		Joint Venture		JV Formed; Operational	NO	N/A	Bashmneral JV holds license for oil field development; operational and in producing	O	Up	Dev	1ST	1				N/A									Production: 666,333 bbls in '94; 431,836 bbls in '95	Export: 439,108 bbls in '94; 217,373 bbls in '95
Mineralol-Rohstoff-Handel GmbH(47%)	Germany	N/A	Tatneft PA (53%)	Russia	Volga-Urals	Tatarstan	Makarovskoye, Umyshinskoye and Kutayarskoye Fields	Tatalsgas JV	Rbs 1.2 MM & DM 0.6 MM	Joint Venture	Jan-89	Operational	NO	N/A	Mud treatment, hydraulic fracturing and horizontal drilling in Tatarstan; Plans to develop Makarovskoye Field (73 MMbbls) and two other fields; In Feb.'96 reported that the 1st waste free hard oil shale processing plant in Russia is to be installed	O	Up	Dev	1ST	1		73	73	N/A					JV Charter Capital: 1.2 MM Rubles and 600,000 DM; received 7.5 MM DM loan; Reported 1st profit of 2 MM DM in 1993.	JV granted oil export tax exemption on 1 Jan.'96 for a period of 1 yr.		Makarovskoye remaining life 16-17 yrs; Prod. to increase to 10,136 bopd; Cumulative production through mud treatment in late '93 was 660,000 bbls; 440,000 bbls thru frac job in '92; Production: 1,238 MMbbls (?) in '93, 0 bbls in '94; 274,806 bbls in '95	Export: 654,300 bbls in '92; 1,14 MMbbls in '93; 1,653 MMbbls in '94; 1,703 MMbbls in '95	

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country	Host Geological or Geographical Region	Host Political Region	Host Location	Name of Project/JV	Charter Capital (\$US MM)	Contract Form	Date Signed or JV Registered	Status	Farm-in	Farm-in Notes	Project Description	O&G NG	Sector	Type	Contract Level	Actual Upstream Project Start (Yrs)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Natural Gas Reserves (Bcm)	Acreage (Sq. Km)	Initial Investment (\$US MM)	Total Investment Low Estimate (\$US MM)	Total Investment High Estimate (\$US MM)	Financing Notes	Contract Notes #1	Contract Notes #2	Production Notes	Export Notes		
Mincette Consortium(49%)	USA	N/A	Permneft, Polaznanef (combined 51%)	Russia	Volga-Ural	Perm Oblast	Kudzhym, Oldhov, Polazna, Prikhovskoye, Yartko-Kamennoi ozhskoye Fields	Kamenoi JV		Joint Venture	May-94	Operational	NO	N/A	JV to carryout rehabilitation and development of fields in the Perm Region. Foreign partner is providing technical expertise and equipment to increase production.	O	Up	Dev	1ST	1												Production: 0 bbls in '93; 1,735 MMbbls in '94; 2,610 MMbbls in '95;	Export: 0 bbls in '93; 1st Export in Oct '94; 456,010 bbls in '94; 820,783 bbls in '95.	
Mitsui & Co. Ltd.	Japan	N/A	LUKoil	Russia	Western Siberia				N/A	Joint Venture	Oct-95	Reported JV formed	NO	N/A	In Oct. 1995 it was reported that Mitsui and LUKoil formed an EOR JV project in Western Siberia; Mitsui will provide technical service & equipment to boost output at Longepas, Ural &	O	Up	EOR	1ST	1					7.00	7.00		The Japanese Gov't (MITI) will provide \$7 MM in trade insurance.						
Mitsubishi Corp.	Japan	N/A	Uzbekneftegaz	Uzbekistan						Concession	*1995				Mitsubishi signed an E&D agreement in Uzbekistan in 1995	O&G	Up	E&D	1ST	0														
Mobil Corp.	USA	N/A	SOCAR	Azerbaijan	Caspian Sea	Caspian Sea				Protocol/MOU	Oct-95	Proposal			Mobil expressed interest in Oct '95 of exploring for oil in Azerbaijan; very preliminary; seeking bilateral contract with Azerbaijan	O	Up	Expl	1ST	0														
Mobil Corp.	USA	Royal Dutch/Shell Group(Netherlands/UK), British Petroleum(UK), British Gas(UK), AGIP(Italy), Statoil(Norwegian), Total(French)	Kazakhstan oil company — KCS JSC, a new national oil company	Kazakhstan	Caspian Sea	Caspian Sea	Caspian Sea	North Caspian Seismic Consortium	N/A	Agreement	Dec-93	KCS formed 30Dec-93; Operational	Maybe	LUKoil is rumored to be interested in joining	Agreement between the consortium and Kazakh government to explore Kazakh part of the 39,600 sq. mile of the Caspian Sea; 3 yrs. \$500 MM of geophysical, expl. & env't studies; KCS is operator; Dev. rights to be awarded via int'l tender & bidding in	O&G	Up	Expl	1ST	1	3	3,600	3,600	2,000	102,664	800.00	600.00	600.00						
Mobil Corp.	USA	N/A	Tyumen Regional Government	Russia	Western Siberia		Tyumen			Supply Contract			N/A	N/A	Will sell equipment and know-how (in exchange for crude oil) to stabilize production of existing well	O	Up	S&S	1ST	0						300.00	300.00						Forward Purchase of Oil.	
Mobil Corp.	USA	N/A	Ministry of Oil & Gas	Turkmenistan					N/A	Protocol/MOU	*1995	Signed; Proposal	NO	N/A	Mobil signed a protocol of intent with Turkmenistan Ministry of Oil and Gas in summer of 1995 for field development; as of Mar '96 no progress has been made	O	Up	E&D	1ST	0														
Mobil Corp. through its subsidiary Mobil Oil Tula(50%)	USA	N/A	Poisk, Tulpar, Aktyubinsk (combined ownership 50%)	Kazakhstan	Pre-Caspian Basin	Aktyrau and Aktyubinsk Oblast	Tulpar Block	TulparMun. JV		Joint Venture	Apr-95	Signed; JV formed Sept '95	NO	N/A	Explore for O&G in 4 areas in northwestern Kazakhstan; \$80 MM will be spent over 5 yrs; if significant discoveries are made perhaps as much as \$2 Bn could be spent in a 25 yr. production phase; 1st drilling expected 1st half '97	O&G	Up	Expl	1ST	1	5				17,759	80.00	2000.00	2000.00						
Mobil Corp. (50%)	USA	Texaco(USA)(50%)	Russian Government	Russia	Russian Far East	Sakhalin Oblast	Kirinskoy Block including Kirinskoye Field	Sakhalin III Kirinskoy Block	N/A	PSA	Dec-93	Preparation on PSA; Protocol signed Jun '96	NO	N/A	Mobil/Texaco won rights via a tender to Kirinskoy offshore block in Dec. 1993; Licensing terms are under negotiation; 6 yr. expl. 19 yr. prod. plus 10 yr. extension; Kirinskoye field to be developed with Sakhalinmorneftegas; Protocol on PSA signed	NG	Up	E&D	1ST	1	25 + 10 yr. ext.				4,025	161.00	161.00	161.00					Minimum exploration expenditure of \$151 MM over 6 years, and a bonus payment of \$10 MM in the 3rd yr.	
Monarch Oil International Inc.	USA	N/A	Tatneft	Russia	Volga-Ural	Tatarstan			N/A	Supply Contract			N/A	N/A	Tatneft will purchase \$235.5 MM of equipment for oil field rehabilitation program for 1440 wells and another 1217 wells for EOR	O	Up	S&S	1ST	0						270.00	270.00		\$235.5 MM from USDO's OGFA.					
Monument Oil and Gas plc.	UK	N/A	Balkanneftekhimprom	Turkmenistan	Western Turkmenistan Basin	Balkhan Oblast	Gumdag and Vyshka Oil Fields		N/A	PSA	Feb-95	Protocol of Intent Signed; Reported On-hold	NO	N/A	In Feb. '95 Monument signed Protocol of Intent to develop the old Gumdag & Vyshka oil fields near Nebat Dag; investment in 1st 5yr will be \$50 MM; expected to be a 25 yr. PSA; as fields are in the interior oil swap with Caspian prod. proposed	O	Up	Dev	1ST	1	25					60.00	60.00	60.00						
Monument Oil and Gas plc.	UK	N/A	Balkanneftekhimprom	Turkmenistan	Western Turkmenistan Basin	Balkhan Oblast				PSA	*1995	Protocol of Intent Signed	NO	N/A	In summer of 1995 Monument signed a new protocol of intent for exploration of new fields in Western Turkmenistan	O	Up	Expl	1ST	0														
Molnack Demak Overhaul Group	UK	Dreco(Canada)		Russia	Western Siberia					Service Contract		Operational / Possibly Finished?			JV will service 700-800 oil and gas demats with Canadian rig builder Dreco	O	Up	S&S	1ST	0		N/A	N/A	N/A	N/A									
Nabors International Inc.	USA	N/A	Sulomneft	Russia	Western Siberia	Yamal Nenets Aut. Okrug	Sulorman Oil Field	Sulorman Oil Field Restoration Project	N/A	Service Contract			N/A	N/A	Contracted to operate 2 well workover rigs for Texaco's Sulorman field project.	O	Up	Workover	2ND	0	2	N/A	N/A	N/A	N/A		7.20	7.20		OPIC will provide \$7.2 MM PRI insurance under its Contractor and Exporter program.				

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country	Host Geological or Geographical Region	Host Political Region	Host Location	Name of Project/JV	Charter Capital (\$US MM)	Contract Form	Date Signed or JV Registered	Status	Farm-in	Farm-in Notes	Project Description	O & G NG	Sector	Type	Contract Level	Konak Upstream Project Duration (Yrs)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Natural Gas Reserves (Bcm)	Acreage (Sq. Km)	Initial Investment (\$US MM)	Total Investment Low Estimate (\$US MM)	Total Investment High Estimate (\$US MM)	Financing Notes	Contract Notes #1	Contract Notes #2	Production Notes	Export Notes		
Naphtha Corp.	Israel	N/A		Russia	Western Siberia	Tomsk Oblast				Unknown					E&D deal worth \$100 MM. Israeli consortium will receive up to 16,000 bopd from Black Sea ports	O	Up	E&D	1ST	1						100.00	100.00							
National Iranian Oil Co.	Iran	N/A	SOCAR	Azerbaijan	Caspian Sea	Caspian Sea	Caspian Sea		0.1	Joint Venture	Feb-96	Agreement Signed	NO	N/A	NIOC and SOCAR signed a preliminary agreement in Feb. '96 to form a JV to carry out exploration in the southern part of the Caspian Sea	O	Up	Expl	1ST	0														
National Iranian Oil Co.	Iran	Government of Russia	Government of Turkmenistan	Turkmenistan	Caspian Sea	Caspian Sea	Caspian Sea		N/A	Protocol/MOU		Signed, but Proposal Only	LIKELY	N/A	NIOC, the Gov't of Russia and the Gov't of Turkmenistan signed a tri-lateral agreement for joint petroleum exploration offshore Turkmenistan; Russia would likely be	O&G	Up	Expl	1ST	0														
National Petroleum Ltd.	Switzerland	N/A	Gruzneti	Georgia				Isireveli JV		Joint Venture	Jul-96	Reported JV formed	NO	N/A	National Petroleum and Gruzneti formed a JV to explore for oil in the Iori Valley and to increase oil production in the existing fields	O	Up	E&D	1ST	1														
Neste OY (20%)	Finland	Elf Aquitaine (30%)	KomTEK (50%)	Russia	Timan-Pechora	Nenets Aut. Okrug	Yuzhno-Shapinskoye and Shapinskoye Oil Fields	SeverTEK JV / Yuzhno-Shapinskoye PSA		JV/PSA	Jun-96	Awaiting adoption of PSA Law	YES	Elf Agreed to join in late 1996	Polar Bear JSC formed to develop the Yuzhno-Shapinskoye field on a PSA basis; Neste has spent \$6MM on FS and is awaiting the PSA law; Elf agreed to join; individual states have yet to be determined; in Jun. '96 announced new SeverTEK JV to be formed	O	Up	Dev	1ST	1	130	130	7		6.00	200.00	300.00							
Neste/Kvaerner Maasoyards (39%)	Finland	Kvaerner Maasoyards (Norway) (10%)	Nenets Autonomous Region, Trust Sevmorneftegazskaya, Nilmargeofskaya	Russia	Timan-Pechora	Pechora Sea	Pomorskoye, Kolokolomonskoye and Khodovskiy Oil Fields	Pechornanefit JSC		Joint Venture	Feb-96	Registered			JV to E&D O&G fields in the Barents & Pechora Seas & Nenets Aut. Okrug as a result of co-operation in '93-'94; Res. of 18 MMt in Khudavankhinsk, 16 MMt in Khudavankhinsk & 30 MMt in Pomorsk. Reported in Aug. '96 JV re-expl. license for last 2 deposits	O&G	Up	Expl	1ST	1	460	460												
Nimr Petroleum Co. (50%)	Saudi Arabia	Smith Energy & Labrador Oil (USA) (10%)	Sametco (5%), Sametco (45%)	Russia	Russian Far East	Sakhalin Oblast	Okuzhnoy Field	Petrozavsk JV	46	Joint Venture	*1991	Operational	YES	Smith Energy & Labrador Oil formed out interests in 1992. Nimr formed-in; Nimr bought out Petrozavsk?	JV has concession to develop the Okuzhnoy field; includes building a mini-refinery; 1 injection well drilled in 1993, a 2,500 ton capacity terminal was made operational by end of 1995. (see US Petroleum entry in Downstream Sheet)	O	Up	Dev	1ST	1	20	70	70		60.00	60.00				Plans to raise production to 10,000 bopd from 5,000 bopd by end of '93; Peak production of 20,000 bopd expected by mid-1990s. Production: 0 bbls in '94, 1,225 MMbbls in '95.	Export: 0 bbls in '92; 0 bbls in '93; 1994 export quota of 730,000 bbls; Exports via Konakov; JV granted oil export tax exemption on 1 Oct '94 for a period of three yrs.			
Nord Atlantic Resources	USA	Nafco-Belgium, Andrew Trading International (Netherlands)	Komnelt, and 6 Russian Commercial Entities with a minority interest	Russia	Timan-Pechora	Kom Republic		Investnafco JV		Joint Venture		Operational			JV to produce oil in the Kom Republic; Operational & Producing	O	Up	Dev	1ST	1									Production: 444,197 bbls in '94; 426,749 bbls in '95.	Export: 362,773 bbls in '94; 247,180 bbls in '95.				
Norsk Hydro	Norway	N/A	Tomskneftegazskaya	Russia	Western Siberia	Tomsk Oblast	Umanikoye Oil Field			Unknown					The two companies are jointly developing the Umanikoye oil field in the	O	Up	Dev	1ST	1														
Nowaco Well Service Inc.	Canada	Marubeni Corp. (Japan)	Varyeganneftegaz as part of SIDANCO	Russia	Volga-Ural	Samara Oblast	Raduzhny Oil Field		N/A	Service Contract	Dec-'94	Operational	N/A	N/A	A two year \$25 MM. well rehabilitation contract funded by the World Bank was awarded to the two companies in Dec. '94	O	Up	Workover	1ST	1	2	N/A	N/A	N/A	N/A	25.00	25.00	25.00	World Bank is providing \$25 MM (?) in financing for the project.					
Nowaco Well Service Inc. (50%)	Canada	N/A	Chemogomnelt JSC (40%)	Russia	Western Siberia	Khanty-Mansiysk Aut. Okrug	Mala-Chemogomneltskoye Field	Yugonelt JV		Joint Venture	Nov-91	Operational	NO	N/A	Development of the Mala-Chemogomneltskoye Field, includes some workovers	O	Up	Dev	1ST	1										Applied for exemption of Mineral Resource Tax.	Production: 3.6 MMbbls in '92; 3.66 MMbbls in '93; 2,994 MMbbls in '94; 2,919 MMbbls in '95.	Export: 2.9 MMbbls in '92; 1,095 MMbbls in '93; 1,632 MMbbls in '94; 669,196 bbls in '95.		
Occidental Oil & Gas Corp.	USA	N/A	SOCAR	Azerbaijan	Caspian Sea	Caspian Sea	Umid Babaka Structure		N/A	PSA	Dec-96	Proposal	NO	N/A	In Dec. '96 Occidental made a proposal to SOCAR for the E&D of the Umid-Babaka Structure; Apr. '96 reported that SOCAR offered new proposal to offset Ory's high overhead cost, including use of spare capacity at Baku's refineries and leasing of equipment	O	Up	E&D	1ST	1														
Occidental Oil & Gas Corp. (50%)	USA	N/A	Chemogomnelt (5%)	Russia	Western Siberia	Khanty-Mansiysk Aut. Okrug	Van-Yegonikoye and Ay-Yegonikoye oil fields	Varyeganelt JV		JV/PSA	Jul-92	Operational	NO	N/A	EOR in Van-Yegon (226.3 MMt) & Ay-Yegon (3.2 MMt) fields; drilling began Jun. '92; Mar. '94 Occidental renewed CAPEX program due to oil export limits & drop in world oil price; Occidental Seeking to redevelop fields under PSA	O	Up	Dev	1ST	1	1,669	1,669	N/A		10.00	10.00		Ory reduced investment exposure in '94; Ory acquired its stake for \$10 MM.	Subject to infrastructure rent fee since autumn of '94; Denied oil export tax exemption despite recommendation by Interdepartmental Commission.	Production: 1.07 MMbbls in '92; 14.9 MMbbls in '93; Due to baseline production dispute JV reduced to 45,000 bopd in most of 1994 versus 65,000 bopd as initially planned. 16.16 MMbbls in '94; 16,904 MMbbls in '95.	Export: 1.07 MMbbls in '92; 14.9 MMbbls in '93; 3,053 MMbbls in '94; 6,660 MMbbls in '95.			

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country	Host Geological or Geographical Region	Host Political Region	Host Location	Name of Project/JV	Charter Capital (\$US MM)	Contract Form	Date Signed or JV Registered	Status	Farm-in	Farm-in Notes	Project Description	O&G NG	Sector	Type	Contract Level	Actual Upstream Project for Duration (Yrs)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Natural Gas Reserves (Bcm)	Acreage (Sq. Km)	Initial Investment (\$US MM)	Total Investment Low Estimate (\$US MM)	Total Investment High Estimate (\$US MM)	Financing Notes	Contract Notes #1	Contract Notes #2	Production Notes	Export Notes
Occidental Oil & Gas Corp. (75%)	USA	N/A	Ukhlanetgazologiya (25%)	Russia	Timan-Pechora	Komi Republic	Block 16 and Sev. Kozhinskoye and Yuzh. Lyzha Fields.	Pomanet JV		Joint Venture		Operational	NO	City was looking for farm-in in mid-1994, but then withdrew the offer.	City won 1992 auction E&P contract for 6,810 sq. km Block 16 and development for North Kozhinskoye and South Lyzha Fields; 5yr E&P and 25yr dev.; appraisal wells have begun; potential reserves of 100MMt.	O	Up	E&D	1ST	1	30		N/A	6,810				Occidental will bear all the exploration costs.	In mid-'94 Occidental was looking for a partial farm-out but then withdrew the offer.			
OelmV (Jukhnen) Exploration GmbH (60%)	Austria	N/A	Yakut Fuel Ministry (Lennetgazologiya?) (35%), Yakutskneftegaz (15%)	Russia	Eastern Siberia	Sakha Republic (Yakutia)	Kempendyaskaya Cavity and Nevskobolobynskaya Analska	Takt JV		JV/PSA	Jun-91	Operational	NO	N/A	JV to E&D NG deposit in Kempendyaskaya Cavity (14,400 sq. km) & Nevskobolobynskaya Analska (7,000 sq. km); \$30 MM E&P in 3-5 yrs; discovered the Otradninskoye-314-2 NG field in '92; negotiated PSA, awaiting PSA Law.	NG	Up	E&D	1ST	1	6		21,300	30.00	30.00	30.00	As of Dec. '92 OelmV invested \$1.8 MM.	Provisional PSC Terms: 6% Royalty, 40% Profit Tax, exploration period is 5 yrs.				
Oil and Natural Gas Corp. - ONGC	India	N/A		Russia	Western Siberia					Protocol/MOU	Nov-95	Proposed			In Nov. '95 it was reported that ONGC plans to invest in oil exploration in Russia as part of a scheme to repay trade debts; ONGC plans to invest in 3 JSCs in Siberia.	O	Up	Expl	1ST	0												
Oil Production Marketing International	UK	Partex (Portugal)	Georgian International Oil Company - GIOC	Georgia					N/A	Protocol/MOU	Mar-96	Preliminary Agreement Under Negotiation	NO	N/A	Oil Production Marketing International and Partex are to sign a preliminary agreement to obtain geological information & an upstream license in exchange for providing all the financing; to be signed.	O	Up	E&D	1ST	1												
Okan Holding		N/A		Kazakhstan	Chu-Saryu Basin	Zhambyl Oblast	Amangeldy Field	Dobol JV		Joint Venture	*1996	Reported Negotiating			Okan Holding which formed the Dobol JV is negotiating to obtain development rights to the Amangeldy natural gas fields.	NG	Up	Dev	1ST	1												
Oman Oil Co.	Oman	N/A	Ministry of Geology and Kazakhstanmunaigas	Kazakhstan	Pre-Caspian Basin	Akhau Oblast	Duganskoye Oil Field, Blocks A&B	Oman Oil Co. PSA	N/A	PSA	Apr-93	Negotiation began Jan. '92; Apr. '93 PSA signed; ratified Sept. '93; Operational	NO	N/A	PSA signed with Oman Oil Co. On 8 Apr. '93; min. expenditure of \$80 MM in 1st 5-yr; est. total expenditures over 40 years is \$2.7 Bn; 20 yr. E&P license for Blocks A&B awarded 5 Sep. '95	O	Up	E&D	1ST	1	40	506	606		6,500	80.00	2700.00	2700.00				
Oman Oil Co.	Oman	N/A	Tomskneft	Russia	Western Siberia	Tomsk Oblast			N/A	Service Contract			N/A	N/A	An initial \$10 MM well-workover contract with the Tomskneft PA.	O	Up	Workover	1ST	1		N/A	N/A	N/A	N/A	10.00	10.00	10.00				
Orbcom	UK	N/A	Yamal Association, Tyumen Association	Russia	Yamal Peninsula	Yamal-Nenets Aut. Okrug	Kharasavey Field	Yamal Oil & Gas JV		Joint Venture		Unsure			Yamal Oil and Gas set up and granted a license for the Kharasavey gas/condensate field; Orbcom hurt by collapse of Vnesheconombank and has sought protection from UK creditors; Construction of pipeline began in Mar. '94.	NG	Up	Dev	1ST	1								Orbcom hurt by collapse of Vnesheconombank and has sought protection from UK creditors.				
Oryx Energy Co.	USA	N/A	Mangystaumunaigas, Zharkyn	Kazakhstan	North Ustyurt Basin	Mangystau Oblast	Arman Field	Arman JV		Joint Venture		JV Formed; Operational	NO	N/A	Development of oil & gas in the Arman field area; One of 11 JVs in Kazakhstan (out of 20) in '96 producing (-3,700 bopd from 4 wells); Mar. '96 Oryx announced it would spend \$15-20 MM to drill 10-30 wells; operations to begin end-'96.	O	Up	Dev	1ST	1					100.00	100.00		OPIC is providing up to a total of \$100 MM in insurance and financing; As of Apr. '96 investment to-date was estimated to be \$4 MM.			As of end '96 JV producing 3,700 bopd from 4 wells. By mid-'98 14,000-16,000 bopd could be added.	
Oryx Energy Co. (50%)	USA	Exxon Ventures (CIS) Inc., a subsidiary of Exxon (50%)	Government of Kazakhstan	Kazakhstan	Southern Pre-Caspian Basin	Akhau Oblast	Mervyi Kuduk Oil Block	Mervyi Kuduk PSA		PSA		Operational	YES		In Sept. '95 Exxon acquired a 50% stake in Oryx's Mervyi Kuduk exploration block.	A PSA for the Mervyi Kuduk Block; Initial 4 year term with a min. of \$10 MM expenditure plus possible extra exp. periods 3 & 2 years; Exxon formed it; Oryx is the operator for exp. Drilling expected in early 1995; JOA to follow if.	O	Up	Expl	1ST	1	4		12,140	10.00	1000.00	1000.00		Oryx originally had a 100% working interest in the PSA.			
Ovoca Resources plc	Ireland	N/A	Patriarchal Church of the Georgian Orthodox Church	Georgia	Black Sea	Black Sea				Protocol/MOU		Signed Letter of Intent in Dec. 1993; close to signing JV in Jan. '94			Ovoca signed a letter of intent with the Georgian patriarchate to negotiate the development of oil and other minerals near Poti on the Black Sea; lands previously controlled by the USSR are being returned to the original owners, Patriarchate.	O&G	Up	Dev	1ST	1								In Dec. '93 Ovoca indicated it does not expect to have to seek additional funding from shareholders to finance the operation.				
PanCanadian Petroleum Ltd.	Canada	N/A	?	Kazakhstan	Pre-Caspian Basin	Akhau Oblast	Blocks 200-16, 17, 200114-15, 16-17, 200114-16, 16			PSA	Sep-95	License awarded 6 Sep. '95; E&D contract to be negotiated	NO	N/A	PanCanadian was awarded a 30 year E&P license on 6 Sep. 1995 for 9 blocks in the Pre-Caspian Basin, Akhau Oblast.	O&G	Up	E&D	1ST	1	30											

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country	Host Geological or Geographical Region	Host Political Region	Host Location	Name of Project/JV	Charter Capital (\$US MM)	Contract Form	Date Signed or JV Registered	Status	Farm-in	Farm-in Notes	Project Description	O & G NG	Sector	Type	Contract Level	Upstream Projects (Yr)	Recoverable Oil & Gas Condensate Reserves (MMbbl)	Recoverable Oil & Gas Condensate Reserves (MMbbl)	Recoverable Natural Gas Reserves (Bcm)	Acres (Sq Km)	Initial Investment (\$US MM)	Total Investment Low Estimate (\$US MM)	Total Investment High Estimate (\$US MM)	Financing Notes	Contract Notes #1	Contract Notes #2	Production Notes	Export Notes			
Panoco	Switzerland	N/A	Tatneft	Russia	Volga-Ural	Tatarstan	Nurta	Blue Kama JV		Joint Venture		To be Terminated			JV will develop 8 heavy oil fields near Nurta, plan to raise output to 150000 bpd from the current level of 2000 bpd over the next 10 years. Project to be terminated as Panoco does not have enough funds to fulfill its obligations to the JV	O	Up	Dev	1ST	1															
Paragon Engineering	USA	Canoco	Akhangel'skiy	Russia	Timan-Pechora	Nenets Aut. Okrug	Ardakh Complex	Polar Lights JV		Service Contract			N/A	N/A	Performing basic engineering and design for the Polar Lights JV	O	Up	S&S	2ND	0		N/A	N/A	N/A	N/A										
Parker Drilling Co. Inc.	USA	Chewon	Government of Kazakhstan	Kazakhstan	Pre-Caspian Basin	Alytau Oblast	Tengiz and Korolev Oil Fields	Tengizchevroil JV	N/A	Supply Contract		Operational	N/A	N/A	Supply drilling personnel to develop the Tengiz oil field - including training, safety programs and managing the labor for existing rigs	O	Up	S&S	2ND	0		N/A	N/A	N/A	N/A										
Parker Drilling Co. Inc.	USA	British Gas plc (UK) (50%)	Kommersant JSC (40%) and Ukhlanetegas (10%)	Russia	Timan-Pechora	Komi Republic	Yerlan Vozey and Vozey Oil Fields	KomiArctic Oil JV	N/A	Service Contract	Jun-95	Operational	N/A	N/A	In June 1995 KomiArctic Oil JV awarded a 3 year drilling service contract to Parker Drilling to increase production in the Upper Vozey Field; spudding will begin in August 1995; 1st contract awarded to a Western drilling rig in 4 years	O	Up	S&S	2ND	0	3	N/A	N/A	N/A	N/A										
Parker Drilling Co. Inc.	USA	British Petroleum (UK), Statoil (Norway)	Pumneftegas	Russia	Western Siberia	Yamal-Nenets Aut. Okrug	Tarasovskoye Oil Field Rehabilitation		N/A	Service Contract	*1992	Terminated Mar '94	N/A	N/A	2 Parker workover rigs were sub-contracted to service 100 wells in 2 years for BP/Statoil's contract with Pumneftegas; in Mar '94 overall contract suspended, BP cited out of Pumneftegas export quota as reason	O	Up	Workover	2ND	0	2	N/A	N/A	N/A	N/A										
Pennzoil Co.	USA	Ramco Energy plc (UK)	SOCAR	Azerbaijan	Caspian Sea	Caspian Sea	Gunezhli & Neft Dashiary Oilfields	Gunezhli and Neft Dashiary NG Compression Facility	N/A	Service Contract	*1991/2	Completed Successfully	N/A	N/A	To construct a gas compression and processing station; 9 turbines were installed and 120 km of pipeline. Work completed in June 1994; saves 1.6 Bcm of NG per year (180 MMcfd) which was hitherto flared	NG	Up	Dev	1ST	1		N/A	N/A	N/A	N/A	116.00	116.00	116.00							
Pennzoil Co. (50%)	USA	O'Connor & Young Drilling (Cyprus) Ltd. (50%)	Aganikovo GP (50%)	Russia	Western Siberia	Ikhtang-Mansvik Aut. Okrug	Zapadny-Mogotonsk Field	Stellan American Oil Co. JV SANK JV	1	Joint Venture	Nov-91	Operational	YES	O'Connor & Young Drilling (Cyprus) Ltd. pulled out	To develop the West Mogotonsk Field, 2 appraisal wells were drilled in 1993;	O	Up	Dev	1ST	1	15 + est.	40	46	N/A		265.00	265.00	Estimated Gross Revenue: \$659.4 MM; Total Costs \$265 MM	JV granted oil export tax exemption on 1 Sep '94 for a period of 3 yrs; No Excise Tax; Royalty 10%; Net Profit of Foreign Partner is approx. 19% (\$76 MM)			Production start-up in late spring of '94; Production: 196,200 bbls in '94, 147,581 bbls in '95	Export: 190,474 bbls in '94; 144,673 bbls in '95		
PETEC	Norway	N/A	Kyrgyzneft	Kyrgyzstan				World Bank Energy Sector Project	N/A	Service Contract	Dec-93	Finished ?	NO	N/A	PETEC, an Norwegian consulting firm was contracted by the World Bank to carry out initial exploration and development for its Energy Sector Project; 1st phase is to assess and promote energy potential, to be	O	Up	S&S	1ST	0		N/A	N/A	N/A	N/A				Overall project is being funded by the IDB, ADB, EBRD, EU, USAID, Governments of Switzerland and Governments of Norway; the latter is financing initial oil and gas exploration.						
Petal	Turkey	N/A	SOCAR	Azerbaijan	Onshore Azerbaijan	Onshore Azerbaijan	Kemelatin Oil Field	Azerpet JV		Joint Venture			NO	N/A	Produce oil from the onshore field of Kemelatin, northwest of Baku; plans are underway to transport crude to Turkish Refinery at Izmit using a sea-land route via the Caspian, Volga-Don Canal, and to the Black	O	Up	Dev	1ST	1		368	368												
Petal	Turkey	N/A	SOCAR	Azerbaijan	Onshore Azerbaijan	Onshore Azerbaijan	Mishovdag and Shivanly Oil Fields	Azerpetal JV		Joint Venture	*1996	Operational	NO	N/A	Same as above (?); JV is carrying out well rehabilitation and workovers of the Mishovdag and Shivanly Oil Fields; 10 per month; Production on sites expected to reach 7.34 MMbbls per year by the end	O	Up	Rehab	1ST	1															
Petro Canada	Canada	N/A	Yugraneft	Russia	Western Siberia	Ikhtang-Mansvik Aut. Okrug	Polyanovskoye Oil Field			Joint Venture	*1993	Non-operational	FAILED	In Jun '94 Beta Well Services was offered a farm-in which they declined in Sept '94	PetroCanada formed a JV to develop the Polyakovskoye field, after initial test asset was on hold	O	Up	Dev	1ST	1															

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Petro-Hunt Corp. (25%)	USA	Dresser Industries Inc. (USA) (25%)	Khanymanskye (25%), Khanymanskye (25%)	Russia	Western Siberia	Khanymanskye Aut. Okrug	Yuzhno-Shakhinskoye (2,736 sq km); Rogatnikovskiy (2,296 sq km); Zapadnyy Ay-Pim (1,936 sq km) and Pravoberezhnyy (4,912 sq km) Blocks	Khanymanskye hunt JV	2.5	JV/PSA	Mar-92	Operational	YES	Dresser Industries formed-in for half of Petro-Hunt's original stake to help in financing.	JV to explore & develop areas in the Khanymanskye Aut. Okrug; 2 developed sections; deposits with reserves of 561 MMbbls and 2 exploration sections; Unit end of 1993 \$10 MM has been spent; will eventually be based on PSA	O	Up	E&D	1ST	1	25 + est.	562	1,896	N/A	11,880		5000.00	6000.00	Protocol has been signed with OPEC for an initial financing of \$50 MM, plus PRR of \$10 MM. By end of '93 \$10 MM had been spent; OPEX - 4,000 MM; CAPEX - \$2,000 MM; Budget Rev = \$13,400 MM; Western Profit Share - \$717 MM; Russian Profit Share - \$800 MM	2nd Estimate. Gross Income = \$11,404 Bn; OPEX - 4,797 Bn; Royalty = 10%; Net JV Profit - \$4,487 Bn; Net Profit to foreign Partner - \$1,841 Bn; Applied for export tax exemption in late 1992 to achieve PRR of 9.2% @ \$20/bbl; Break-even point \$17/bbl.		Production to begin in '96, with peak production of 100,000 bopd by 2005-2006; Total budgeted production of 50 MM over the contract life; Reserves from explored fields = 77 MM; Est. reserves from overall area is 250-270 MM	Applied for export tax exemption in late '92	
Petro-Russia (49%)	USA	N/A	Nizhnevolskaya (51%)	Russia	Volga-Ural	Saratov Oblast	Smolenskoye Gas & Condensate Field	Radonoff JV		Joint Venture	Jan-96	Reported to be setting up	NO	N/A	NYCG holds license for the Smolenskoye field; proposing to set-up JV with Petro-Russia to carry-out exploration; US firm is to finance the drilling of deep wells and construction of infrastructure	O&G	Up	Expl	1ST	1														
PetroBaltic	Poland	N/A	Geonafra	Lithuania	Baltic Syncline / Baltic Sea	Baltic Sea	Baltic Sea		N/A	Agreement	Mar-96	Proposal	NO	N/A	PetroBaltic of Poland is undergoing negotiations with Lithuanian Geonafra for cooperative exploration efforts in the Baltic Sea; PetroBaltic willing to invest \$30MM over 6 yrs	O	Up	Expl	1ST	1					30.00	30.00								
Petronea	Belgium	N/A	Ensemetegala ecology, Ensemetegala	Russia	Eastern Siberia	Krasnoyarsk Krai				Unknown		Proposal			Development of oil fields in two areas covering 20,000 sq km in Krasnoyarsk Krai	O	Up	Dev	1ST	1				20,000										
Petronas	Malaysia	N/A	Kazakhstanneftgaz	Kazakhstan	Caspian Sea, Southern Turgay Basin	Caspian Sea, Dzhezkazgan Oblast	Kumkol Oil Field & ...		N/A	PSA		Proposal			Petronas plans to undertake exploration and development activities near Kumkol field and in the Caspian Sea	O	Up	E&D	1ST	1														
Petronas	Malaysia	N/A	Ministry of Oil and Gas	Turkmenistan	Caspian Sea	Caspian Sea	Cheleken-1 Block; Including the Gubkin, Banta, Samovl, Uynova		N/A	PSA	Mar-96	Reported Negotiations Underway	NO	N/A	During 1995/96 Petronas was negotiating a PSA for E&D of the Cheleken-1 Sea Block	O	Up	E&D	1ST	1				1,905	60.00	60.00								
Petrus Wells Service		N/A	Kogalymneftegaz is a subsidiary of LUKoil	Russia	Western Siberia				N/A	Service Contract	*1992	Operational	NO	N/A	Petrus Wells Service restore 6 wells in 1993 @ a cost of \$240,000 per well over.	O	Up	Wkover	1ST	1		N/A	N/A	N/A	N/A	14.40	14.40							
PGS Napeac	Norway	N/A	Yuzhno-Sibirskaya Trust	Russia	Black Sea	Black Sea				Joint Venture					JV to provide seismic data and sales of exploration reports on the Black Sea and Sea of Azov	O&G	Up	S&S	1ST	0		N/A	N/A	N/A	N/A									
Phibro Energy Production	USA	Anglo-Suisse Co.(US), Norsk Hydro	Vareganneftegas	Russia	Western Siberia	Khanymanskye Aut. Okrug	Bakhtovskoye, Vorkhnye-Koktyevskoye, Khokhryakovskoye, Varyanskoye Oil Fields	Golden Mammoth JV		JV/PSA		Negotiating			Phibro Energy Production (the "JV") formed the Golden Mammoth JV to pursue a PSA	O	Up	Dev	1ST	1														
Phibro Energy Production Inc. (49%)	USA	Anglo-Suisse Co.(US)(5%)	Vareganneftegas(50%)	Russia	Western Siberia	Khanymanskye Aut. Okrug	Zapadnyy Varyeganskoye and Tognitskoye Oil Fields	White Nights JV	80	Joint Venture	Nov-90	Operational	NO	N/A	JV to develop the West Varyeganskoye and Tognitskoye Fields; in Jun '95 JV reported that oil taxes had absorbed all proceeds (Gross rev. of \$150 MM from sale 10 MMbbls was incremental at total prod. was 35 MMbbls; no ROI except minor payment on interest)	O	Up	Dev	1ST	1		160	160		80.00	80.00	80.00	\$40 MM of equity supplied by Phibro; Phibro loaned JV \$62 MM; Jul '93 Phibro took a \$20 MM charge reducing book value to \$66 MM. By Jun '96 all revenue going to taxes, costs & reinvested except for partial payments of loans: \$20 MM PRR from OPEC in '93	Roy = 10-20% of exports; 20% VAT on goods and services purchased in Russia; Operating costs approx. 35/bbl.	JV granted all export tax (35/bbl) exemption on 1 Sep '94 for a period of 3 yrs; Effective 1 Aug '96 Excise tax reduced from 70,000 bopd to 20,000 bopd (\$13.66 to \$3.60) per tonne (one of six JVs to it reduction)	Production: 840,000 bbls in '91; 9.5 MMbbls in '92; Late '93 @ 27,000 bopd, 18,000 bopd, 9.06 MMbbls in '93; 7,362 MMbbls in '94; 5,599 MMbbls in '95; In Jun '96 it was reported the JV had produced 35 MMbbls of which 10 MMbbls was for export.	Exports: 334,000 bbls in '91; 1.02 MMbbls in '92; 3.25 MMbbls in '93; 3,638 MMbbls in '94; 3,747 MMbbls in '95;		
Ponder Industries	USA	N/A	SOCAR	Azerbaijan	Caspian Sea	Caspian Sea	Baku Ponder Services JV			Joint Venture			N/A	N/A	To provide oil field services in Azerbaijan. Ultimately more than 2000 wells, along with shallow well infield drilling. \$10 MM work under other service contracts already completed. In May '94, initial 17 wells was announced. In Sept '94 work	O&G	Up	Wkover	1ST	1					10.00	10.00								
Ponder Industries	USA	N/A	Kyrgyzneft	Kyrgyzstan					N/A	Protocol/MOU					Carry out well workovers on 600 wells, shallow drilling, plus provide two 4000 bpd refineries	O	Up	Wkover	1ST	1	20							In Nov. '94 Ponder indicated there would be no deal as financing could not						
Premier Consolidated Oilfields plc	UK			FSU						Unknown		At the Formative Stage			Currently have a number of E&D projects at the formative stage	O&G	Up	E&D	1ST	0														

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Preussag Energy GmbH	Germany	Sunstone Corp.(Japan)	Yuzhskazneftgaz	Kazakhstan	Southern Turgay Depression	Kys-Orda Oblast, or Dzhezkazgan Oblast				Joint Venture					A JV to participate in oil production near the Kunkul Oil Field.	O	Up	Dev	1ST	1														
Preussag Energy GmbH(50%)	Germany	N/A	Tubcar(25%), Akhyubinsk(25%)	Kazakhstan	Pre-Caspian Basin	Akhyubinsk Oblast	Akhyubinsk Fields	Aldabe Preussag Munai Ltd.		Joint Venture	Jun-95	JV Formed	NO	N/A	JV signed contract to carry out 6 year exploration program in Akhyubinsk Fields in Northern Kazakhstan; if successful then 25 years development period. Kazakh government received \$1million signing	O&G	Up	Expl	1ST	1	6				6,000	110.00	110.00	110.00						
Arco Petroleum Services Inc.	USA	N/A	?	Russia	Western Siberia				N/A	Service Contract	Mar-95		N/A	N/A	Operate to drilling rigs in Western Siberia, operations to begin with one rig in Mar.'95 and the other in May '95	O	Up	SES	1ST	0		N/A	N/A	N/A	N/A									
Prabadi Sdn Bhd a wholly owned subsidiary of Renang BHD(60%)	Malaysia	N/A	Uzbekneftegaz a wholly owned subsidiary of Uzbekneftegaz(5%)	Uzbekistan	Amu-Darya Province	Kashkadarya Oblast	Karakaray Oil Field	Uzmaloli Oil JV		Joint Venture	May-94?	Reported Jun '94	NO	N/A	JV to develop the Karakaray Field with reserves of 20 MMbbls; crude will be sold to Fergana Refinery. Renang will provide technology and assist in raising funds; had commercial production in 1995; as of Jan '96 only	O	Up	Dev	1ST	1		20	20	N/A										
Prabadi Sdn Bhd a wholly owned subsidiary of Renang BHD	Malaysia	N/A	Uzbekneftegaz	Uzbekistan	Fergana Basin		Gumkhana Field	Gumkhana Field Study		Concession	*1995	Reported	NO	N/A	In 1996 it was reported that Prabadi is negotiating to carry out a study of the the Gumkhana Field	NG	Up	Expl	1ST	1														
Promyshlennaya Stavitskiy Bmo	Czech Republic	N/A	Embanefit	Kazakhstan	Southern Pre-Caspian Basin	Aktau Oblast	Karagana, Tantar and Zhengelsky Oil Fields	Kazpromstavitskiy JV		Joint Venture	*1991	JV Formed; Operational	NO	N/A	Formed JV; JV has been operational since July 1991; The Kazpromstavitskiy JV won preliminary rights to carry out EOR in six small fields east of Aktau in July 1993(?) one of 11 JVs in Kazakhstan (out of 20) in '95 actually producing	O	Up	Dev	1ST	1		24	24	N/A		78.00	78.00		Investment as of Apr.'95 estimated to be \$13 MM	Summer '96 accused by Gov't of investing enough; Licence to develop the Karagana oil field has been cancelled		Production: 966,910 bbls in '95.		
Quintana Minerals (Cyprus) Ltd., a wholly owned subsidiary of Quintana Petroleum Corp.	USA	N/A	Yeniseyneftegas geology, Yeniseygeoteknika	Russia	Eastern Siberia	Evenkiy Autonomous Okrug	Yurubchenko-Takhomskaya Oil & Gas Zone; Kuyumbenskoye, Tenskoye, Ush-Kamovskoye, and Omomskoye		N/A	PSA		Proposed	Maybe	Apparently Statoil and BP considered the same project in 1991 and 1992	Quintana has been negotiating for the rights to explore and develop the Yurubchenkoye oil field, plus four others; BP officials feel it is too big for Quintana; a consortium will be needed; likely to be developed at the earliest in 21st century	O&G	Up	E&D	1ST	1		2,497	2,497	543		2100.00	2100.00		Russia's estimated total investment of \$2,100 MM needed: \$400MM geological prospecting, \$400MM pipeline and \$1,400MM development.					
Quintana Minerals (Cyprus) Ltd., a wholly owned subsidiary of Quintana Petroleum Corp (50%)	USA	Royal Dutch Shell(Netherlands)	Pumneftegas(50%)	Russia	Western Siberia	Yamal-Nenets Aut. Okrug	Komsomolskoye Oil & Gas Field	Pur River JV	400	JV/PSA	Dec-93	Registered, but not yet operational	YES	In Aug.95 it was reported that Shell had culminated negotiations with the partners of the Pur River JV pursue PSA	FS completed in '91; JV to develop the Komsomolskoye oil & gas field; work was to begin spring of '94; \$200 MM will be used to drill 170 wells developing approx. 1,300 MMbbls; Very complex field over 62 distinct formations; Operations have not yet started	O&G	Up	Dev	1ST	1	25	1,156	1,300	N/A		4600.00	4600.00		\$331.4 MM credit from the WB and EBRD.	Pumneftegas' \$200 MM contribution to the JV charter fund includes 170 drilled wells, 164 of which produce 10-16bbl/day; unique in the fact that Quintana is allowed to work on a field which is already producing.	Direct capital investment - \$255 MM; CAPEX - \$4.5 Bn over 25 yrs; Gross Revenues - \$14.6 Bn over 25yrs; JV's EBIT - \$7.1 Bn; JV's after tax profit - \$4.1 Bn; Each partner to get \$2.05 Bn; Quintana's net profit - \$1,800 MM. Pay back Period is 6 yrs.	Planned Peak Production of 150,000 bopd.		
Racal Survey Ltd.	USA	Mobil(USA), Royal Dutch/Shell Group(Netherlands/UK), British Petroleum(UK), AGIP(Italian), Statoil(Norwegian), Total(French)	Kazakhstancaspi shelf - KCS JSC, a new national oil company	Kazakhstan	Caspian Sea	Caspian Sea	Caspian Sea	North Caspian Seismic Consortium	N/A	Service Contract		Completed	N/A	N/A	Racal commissioned to conduct a geodetic survey of Kazakhstan's Caspian seacoast; the data will be used to establish reference points for satellite-based positioning systems. (See Mobil entry for Kazakhstancaspi shelf)	O&G	Up	Geophys	2ND	0		N/A	N/A	N/A	N/A									
Ramco Energy (Tyumen) Ltd., a wholly owned subsidiary of Ramco Energy plc.	Scotland	N/A	Mengasgeology a Tyumengeology a?	Russia	Western Siberia	Tyumen Oblast	Uminskoye Oil Field		N/A	Agreement		FS Completed	Likely	N/A	Preliminary agreement to develop Uminskoye oil field. FS completed in 1993 by Prodill Ltd.(UK). Development would require \$10 Bn in investment over 10 years including 250km pipeline.	O	Up	Dev	1ST	1		220	220	N/A		0.58	10000.00	10000.00		Ramco Energy (Tyumen) Ltd. is an unincorporated associated undertaking in UK. Established with some external non-recourse financing totaling \$385,000 to carry out the feasibility study.				
Ramco Energy plc.	Scotland	N/A	SOCAR	Azerbaijan	Onshore Azerbaijan	Onshore Azerbaijan	Muradkhaniy Oil Field		N/A	Joint Venture	Jul-94	Negotiation Ongoing	Maybe	N/A	JV to develop onshore Muradkhaniy Oil Field Area in S.W. Azerbaijan; discovered in '70; SOCAR has to-date drilled 100 wells; difficult geology; negotiation ongoing '95/'96; signing expected '96; 2-phase dev. 1st - \$10-20 MM.	O	Up	Dev	1ST	1					3,000	15.00	15.00	15.00		In Jul '96 reported that final stage of negotiations involved tax and royalty issues, expected signing autumn of '96.				

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Ramot Management Co.	USA	N/A	Nizhnevartovskneftegaz	Russia	Western Siberia				N/A	Service Contract			N/A	N/A	Purchase production equipment from several U.S. manufacturers for Nizhnevartovskneftegaz's oil field rehabilitation program; In Feb. '96 USDOM approved disbursements of \$293.4 MM to Ramot to support 2,000 workovers & drilling of 240 wells	O	Up	S&S	1ST	0		N/A	N/A	N/A	N/A	293.40	293.40	293.40	USDOM is to provide a \$266.3 MM guarantee under OGFA; Ramot which currently exports 7.3 MMbbl per year of Russian oil to it from the project as compensation for its work.	In Feb. '96 USDOM approved disbursements of \$293.4 MM to Ramot to support 2,000 workovers & drilling of 240 wells				
Rauma Offshore Contracting Oy	Finland	N/A	Sakhalinmorneftegaz OJSC	Russia	Russian Far East	Sakhalin Oblast			N/A	Service Contract			N/A	N/A	Rauma signed a \$10 MM contract to convert a skirted jack-up rig to a cantilever drilling rig to be operated in the Russian Far	O&G	Up	S&S	1ST	0		N/A	N/A	N/A	N/A	10.00	10.00	10.00						
Reed Tool	USA	Conoco	Akhangel'skaya	Russia	Timan-Pechora	Nenets Aut. Okrug	Ardain Complex	Polar Lights JV	N/A	Supply Contract			N/A	N/A	Supplying drill bits to the Polar Lights JV	O	Up	S&S	2ND	0		N/A	N/A	N/A	N/A									
Resource Development Co. - Redco.	USA	N/A	Government of Moldova	Moldova	South Western Moldova	Volyni, Enchani and Barmala Regions	Volynskoye Oil Field		N/A	Concession	Jul-96		N/A	N/A	In July '96 Redco secured an exclusive oil & gas E&D concession in Moldova; 10 yr. exp. licence; 20 yr. dev. licence to be issued on field by field basis; includes 3 shut in wells; dev. drilling on Volynskoye to begin in Spring '96	O&G	Up	E&D	1ST	1	30	24	24	26	33,700	27.60	100.00	160.00		Gov't to re 20% of the profit (in cash or kind) during the first 10 years plus the right to buy the remaining oil at a 6% discount; Redco will invest \$26 MM over each five year period.			Peak Production could reach 2,400 bopd.	
Repsol (60%)	Spain	Enterprise Oil(40%)	Akhubinskii?	Kazakhstan	Pre-Caspian Basin	Akhubinsk Oblast	Baganinsk y Block III		N/A	PSA		Negotiation	NO	N/A	Won Tender held by Haskburt; Repsol and Enterprise are to jointly explore and develop the 12,190 sq. km Baganinsk Block II; in 1996 FS was underway and contract was under negotiation.	O	Up	E&D	1ST	1					12,190									
Richmond Oil & Gas	UK	N/A	Krasnodarsk Oil & Gas PA	Russia	Western Siberia	Kanty-Mansvsk Aut. Okrug	Talinskoye Field	Taloi JV		Joint Venture		Operational			JV operating in the Talinskoye Field in Tyumen.	O	Up	Dev	1ST	1												Fields are producing about 10,000 bopd.		
Rickblast	Scotland	N/A	SOCAR	Azerbaijan	Caspian Sea	Caspian Sea	Chirag, Azin and Deep Water Section of the Guneshli Fields	AIOC	N/A	Service Contract	Reported Aug. '96		N/A	N/A	Rickblast has contract with SOCAR to carry out drilling facilities modernization (Chirag-1 Platform and Kaspmanshi floating drilling offshore unit)	O&G	Up	S&S	2ND	0		N/A	N/A	N/A	N/A									
Robert-Johnson Industries Inc.	USA	Conoco	Akhangel'skaya	Russia	Timan-Pechora	Nenets Aut. Okrug	Ardain Complex	Polar Lights JV		Supply Contract			N/A	N/A	Supply equipment to upgrade three old wells for the Polar Lights JV	O	Up	S&S	2ND	0		N/A	N/A	N/A	N/A									
Royal Dutch/Shell Group (50%)	UK / Netherlands	N/A	Evlilhan (50%)	Russia	Western Siberia	Khanty-Mansvsk Aut. Okrug	West & Upper Salymkoye, South & North Vadeyskoye Oil Fields	Salym Petroleum Development N.V.		JV/PSA	Mar-96	Tender 1993, Preparation on PSA, 27 Mar '96 JV formed	NO	N/A	Shell won tender to develop 3 oil fields with est. reserves of 700 MMbbl; 1st stage development will require \$300 MM; 16 Jan. '96 partners won Gov't approval for negotiations to proceed; 27 Mar. '96 formed JV; \$60 MM on 6 wells has been	O	Up	Dev	1ST	1	25	561	700	N/A		300.00	1639.00	1900.00	Signature Bonus of \$53.5 MM including \$7 MM to capitalize Evlilhan plus \$20 MM in regional social fund.			Production could begin by '98; Expected peak production of 6 Mtpy (120,000 bopd) by the year 2003; total reserves to be extracted are 87 MM by the year 2020.		
Royal Dutch/Shell Group - Pecten Subsidary	UK / Netherlands	N/A		Ukraine	Black Sea	Black Sea	Black Sea			Tender	Jan-96	Tender 31 Jan. '96	NO	N/A	Shell/Pecten won 31 Jan. '96 bidding round for 8 offshore Black Sea Blocks (3,760 km sq.); In Jul. '96 considering investing \$1 bn in several upstream oil drilling projects and a NG pipeline in Ukraine, the latter with	O	Up	Expl	1ST	0					3,760		1000.00	1000.00						
Ruhrgas AG	Germany	N/A	Gazprom, Rumneftegaz, Staneftegasener soborka	Russia	Western Siberia					Unknown					About 100 Bcm per year of NG is being flared in Western Siberia. The joint project will produce, capture and process about 10 Bcm per year and sold under a 20-year plan approved by the World Bank; project is expected to	O	Up	Dev	1ST	1										Project has World Bank approval.				
Saga	Norway	Shell Exploration	Severgasprom, Akhangel'skaya, Ukhlovskoye gasologs	Russia	Timan-Pechora	Nenets Aut. Okrug	Khayoga Oil Fields and Lavavosh, Vasilkov, Karmaha and Korovin			PSA		On-hold, Awaiting PSA Law			Develop already discovered reserves. Shell and Saga have abandoned negotiations on Densovskoye Field until clearer fiscal and legal regulations are established.	O	Up	Dev	1ST	1														

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Sakhalin Energy Investment Co. (100%), MMMMS		Marathon Oil Co. (USA) (30%), McDermott International Inc. (USA) (20%), Mitsui (Japan) (20%), Shell (Netherlands/UK) (20%), Mitsubishi (Japan) (10%)	Rosneftgaz, Sakhalinmorneftgaz OT JSC	Russia	Russian Far East	Sakhalin Oblast	Pitun-Astokhoye and Lunskoye Fields	Sakhalin II		PSA	Start 1988; 1992 tender; PSA signed Jun. '94	PSA signed 21 May '96 confirmed proceed with next phase	YES	Original consortium was MMM consisting of Japanese firms, Marathon and Shell joined at later dates	Develop the Pitun-Astokhoye and Lunskoye oil and gas fields. Three appraisal wells have been drilled. 2nd Reserve est. = 74 526 MMbl oil, 33 016 MMbl condensate; 390.358 Bcm NG; 21 May '96 MMMMS confirmed it would proceed with next phase of project	O&G	Up	Dev	1ST	1	26 + 5 yr. est. up to 50 yrs max	3,164	3,164	450			8000.00	9100.00	CAPEX - \$9.1 Bn; Cost recovery 10-11 yrs; Gross Revenue - \$55.1 Bn; CAPEX+OPEX - \$17.22 Bn; Minimum Russian Profit - \$17 Bn including \$3.3 Bn of Royalties (@ 6%), 10% profit share - \$3.5 Bn; Profit tax (@ 32%) - \$10 Bn and Bonuses etc. - \$230 MM.	Bonuses, \$20 MM, \$15 MM @ start-up of Lunskoye & \$20 MM for Pitun-Astokh and \$160 MM for post Russian expl. to be paid in 10 annual payments; Sakhalin dev. tax \$100 MM to be paid in 5 annual payments; Corporate profit tax 32%; Resource Rent Tax	100% Cost Oil after payment of Royalty; Sliding Scale Profit oil split (Russia/Sakhalin Energy); RR=17.6% 10-90; RR =17.5-24% 50-50; RR=24-70-30; Domestic firms to raise 70% of contracts; \$500 MM early gas production commitment if Russia guarantees price.	1st Prod. in '99; 1st plateau 120,000 boepd & 160-200 MMcfd for Pitun-Astokh. Peak Oil Prod. 200,000 boepd; Peak NG Production is to be 18 Bcm per year including 8 Bcm per year for domestic market and 10 Bcm for LNG exports (1000 MMcfd LNG exports).		
Samsco International of Samsco Energy?	USA	N/A		Russia	Volga-Ural	Udmurt Aut. Republic			N/A	PSA		Proposed FS			Project to explore and develop 9 oil fields with recoverable reserves of 328.5 MMbbls; Samsco aims to produce 100 to 150 MMbbls in the first 10 yrs of operations; grant of \$450,000 by US TDA to support FS	O	Up	E&D	1ST	1		329	329	N/A		0.45	0.45	0.45	US Trade and Development Agency agreed on 30 Jun '96 to supply \$450,000 grant to support a FS	Note: Udmurtneft, part of SIDANCO, won the backing of the Russian MFE to develop the field; Jan. '96 efforts were underway to resolve the situation.				
Samsco Investment Co.	Canada	N/A	Munargaz	Kazakhstan	Syrdarya Basin	Chimkent Oblast	Kumkol Field	Yuzhneftegas Privatization		Acquisition	Jun-96	Tender Called Nov '96; Tender won Jun '96	NO	Both Humana Hydrocarbons and Canadian Occidental were unsuccessful in their bid	20 Nov '96 tender called for sale of Yuzhneftegas; Tender scheduled for Feb./Mar. '96; Samsco Investment Co. and the domestic firm Munargaz won 100% control for \$40 MM bid; Yuzhneftegas currently produces 60,000 boepd and operates the	O	Up	E&D	1ST	1					61.00	61.00	61.00							
Santa Fe	USA	N/A	SOCAR	Azerbaijan	Caspian Sea	Caspian Sea	Chirag, Azne and Deep Water Section of the Guneshli Fields	AIOC	N/A	Service Contract		Reported Aug. '96	N/A	N/A	Santa Fe has contract with SOCAR to carry out drilling facilities modernization (Chirag-1 Platform and Kaspianneft floating drilling offshore unit)	O&G	Up	SB&S	2ND	0		N/A	N/A	N/A	N/A									
Schlumberger	France	N/A	Munargaz	Kazakhstan					N/A	Service Contract	Jul-96	Reported Signed	N/A	N/A	In July 1996 it was reported that Schlumberger won a \$6.5 MM contract from Munargaz to supply information systems to process seismic and geological information, oil and gas reserves and field	O&G	Up	SB&S	1ST	0		N/A	N/A	N/A	N/A	6.50	6.50	6.50						
Scott-European Corp.	USA	N/A	Saratovneftegaz	Russia	Volga-Ural	Saratov Oblast	Belkamenkoye, Sokolovskoye & Limano-Grachenskoye Oil Fields		N/A	Unknown			N/A	N/A	Negotiations are underway for Scott to invest in a project to drill horizontal wells in three oil fields.	O	Up	Dev	1ST	1		N/A	N/A	N/A	N/A									
Security Benefits Inc. (50%)	USA	N/A	Termneft (50%)	Russia	North Caucasus Province			TexTerm JV	1	Joint Venture	Apr-96				JV to develop the Severik and East Severik O&G condensate fields. Will drill 10 wells and repair 11 by the end of 1996.	O&G	Up	Dev	1ST	1									Security Benefits will finance production and supply equipment, materials and services. Termneft contribute existing assets and					
Siemens AG	Germany	N/A	Gazprom	Russia					N/A	Supply Contract	Mar-94	Signed	N/A	N/A	Siemens won a contract to supply Gazprom with a \$13 MM communications network in Moscow	NG	Up	SB&S	1ST	0	N/A	N/A	N/A	N/A		13.00	13.00							
Simmans Group Inc.	Hungary			Russia	Western Siberia and Timan-Pechora				N/A	Service Contract			N/A	N/A	Carried out well workover projects in Komi Republic and in Western Siberia	O	Up	Workover	1ST	1														
Simon Petroleum Technology Ltd.	UK	Parlex CPS (Portugal)	Armenian Ministry of Energy and Fuel	Armenia					N/A	Service Contract			N/A	N/A	Will analyze the results of geological research on hydrocarbons in a tender held by the Armenian Ministry of Fuel and Energy. Initial stage will be completed in th. fall of 1996	O&G	Up	SB&S	1ST	0		N/A	N/A	N/A	N/A	0.60	0.60	0.60	Research will be funded by the EU's TACIS program which will cost 500,000 ECUs					
Simon Petroleum Technology Ltd.	UK	N/A		Kazakhstan	Pre-Caspian Basin	West Kazakhstan Oblast	Chinarevskiy and Kenemovo Blocks		N/A	Service Contract			N/A	N/A	SPT is acting as a broker on the Chinarevskiy and Kenemovo exploration blocks	O&G	Up	SB&S	1ST	0		N/A	N/A	N/A	N/A									
Simon Petroleum Technology Ltd.	UK	N/A	Chonomaomato gaz	Ukraine	Black Sea and Sea of Azov	Black Sea and Sea of Azov	Black Sea and Sea of Azov		N/A	Service Contract			N/A	N/A	Process seismic data and conduct surveys on the geology and hydrocarbon potential of the Black Sea and the Sea of Azov	O&G	Up	Geophysical	1ST	0														
Singapore Oyo PTE Ltd.	Singapore		Central Geophysical Expedition	Russia				Aleack JV		Joint Venture		Operational				O&G	Up	Dev	1ST	1														

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Schlumberger Logica	France	Ramco Energy plc(Scotland)	SOCAR	Azerbaijan	Onshore Azerbaijan	Onshore Azerbaijan	Muradkhani Oil Field		N/A	Cooperation Agreement	Jul-94	Negotiation Ongoing	Maybe	N/A	In Jul '96 reported that Schlumberger Logica chosen as field management contractor for Ramco's intended (7) JV to develop onshore Muradkhani Oil Field Area in SW Azerbaijan; see	O	Up	S&S	2ND	0		N/A	N/A	N/A									
Stredvig	Norway	Petrol(Norway); Intrans(Norway); Halliburton(USA) through its subsidiary Brown&Root; Charterhouse Bank(UK)	Tornikaz	Russia	Western Siberia	Tornik Oblast	Myrdshino Gas & Condensate Field			Joint Venture	Sep-96	Reported that consortium to be formed in Sep '96	Likely	Understanding that Statoil will probably join later.	Tornikaz is to form an int'l consortium to carry out a \$675 MM programme to develop NG fields and infrastructure in Tornik Oblast	NG	Up	Dev	1ST	1		N/A	N/A	100		200.00	200.00	Charterhouse Bank is financial adviser; plans to open a \$370MM credit line to Tornikaz for 7 yrs at 7%. Gazprom which owns 44% of Tornikaz will guarantee the loan.				Annual production to reach 1.5 Bcm of NG by '96 and 5 Bcm by 2001;	
Smith International Inc.	USA	N/A	Yuzhneftegaz	Kazakhstan	Turgay Depression	Kyzyl-Orda Oblast	Kumkai Oil Field		N/A	Supply Contract	Aug-96	Signed	NO	N/A	Smith signed a \$230,000 contract to supply 40 drill bits for the Kumkai field; a letter of intent was also signed to supply casing systems; negotiations are underway to mobilize drilling rigs; Smith has worked in KZ for 18 mths with 6 contracts = \$2 MM	O	Up	S&S	1ST	0		N/A	N/A	N/A	N/A	0.23	0.23	0.23					
Snow Leopard Resources Inc.	Canada	Canadian Lone Pine Company(Canada)(50%)	Kazakhstan Gaz. Park a government holding company	Kazakhstan	Pre-Caspian Basin	Alytau Oblast	Tokarevskoye, Imatshenskoye and Sazon-Kurak Fields	Stepnoi Leopard JV		Joint Venture	*1996	JV Formed	YES	Snow Leopard Resources Inc. replaced Canadian Lone Pine Company in all early arrangements	JV to develop three O&G fields in Northwestern Kazakhstan. JV will spend \$70-90 MM over the next 5 yrs; oil to be exported through Russia to Eastern Europe and gas will be used domestically; est. production to be 16,000 bopd and 78 MMcf/d	O&G	Up	E&D	1ST	1	21	21	22			70.00	90.00	Stepnoi is reported to be arranging project financing with the IFC.			Project should produce 16,000 bopd of oil and condensate and 78 MMcf/d of NG;		
SOCO Perm Russia Inc. (34.9%), a fully owned subsidiary of SOCO International which is in turn owned by Synder	USA	Two European Investment Funds(16.4%), SOCO International is a subsidiary of Synder Oil(USA)(41.2%), MD See(Russia)(13.7%), Command(12.5%), Holland Sea Search (Netherlands)(12.5%), Rochem(Japan)(20%)	Permneft(50%)	Russia	Volga-Ural	Perm Oblast	E&P Block in Solikamsk Trough including Barovitskoye, Logovitskoye, Nagovitskoye, Myrzen, Ozernoye and Tarkhovskoye Fields	Permneft JV		Joint Venture	*1992/93	Operational	YES	Holland Sea Search formed-in for 12.5% of a cost of \$3.125 MM in Feb./Mar '94; in Apr '96 16.4% of SOCO's shares were sold to two European investment funds;	JV to carry out E&D in Solikamsk Trough including 6 undeveloped fields with reserves of 100 MMbbl; operational by end of 1993; Phase 1 complete 25 existing wells, cost \$22 MM; and drill 400 wells in 10 years;	O	Up	E&D	1ST	1	100	116	N/A	1,200	22.00	128.00	128.00	Synder has received approval for a loan guarantee of \$40 MM from OPEC; Permneft has a loan from USDO to buy \$40 MM of refinery processing equipment from Ventsch Engineers and \$33 MM for oil pumps from Reda; PR supplied by OPEC.	Total tax burden (less export tax for which exemption has been applied for): \$7.5-9/bbl; Production cost: \$1-1.5/bbl; Development cost \$1/bbl		Production to rise to 25,000 bopd within 9 years. Production: 77,062 bbls in '94, Aug '94 @ 600 bopd from 3 wells, and '94 @ 400 bopd, 627,802 bbls in '95; Target prod. = 3,000 bopd in yr 1, 10,000 bopd and yr 2, 20,000 bopd by yr 3, 25,000 by yr 9.	JV production to be partly exported and partly refined at Perm Refinery; Exports: 1st export on Nov '94, 491,452 bbls in '94, Rochem markets exports	
Spartan Drilling Services Inc. (50%)	USA	N/A	Siberian Drilling Association(25%), Nizhnevartovskneftegas(25%)	Russia	Western Siberia		Siberian Spartans JV		2.3	Joint Venture	Jul-91	Terminated May-94	NO	N/A	JV to develop oil fields. Spartans will bring in equipment and experts to drill and complete horizontal and high angle wells. Terminated in May	O	Up	Dev	1ST	1												Production: 234,000 bbls in '92; 0 bbls in '93;	
Stan Corneilus Consortium	USA	N/A	Uzbekneftegas	Uzbekistan	Fergana Basin	Namangan Oblast ?	Mingbulak Oil Field		N/A	PSA					Stan Corneilus Consortium wishes to develop the Mingbulak oil field	O	Up	Dev	1ST	1	28	600	800	N/A		100.00	100.00	Joint Venture capitalized at \$100 MM. US group to receive 15% of profits into Uzbekistan oil industry.	Note. Rumored that US Company has left and now the Uzbek Government is working the area with four drilling rigs				
Statoil	Norway	N/A	Gazprom	Russia	Western Siberia	Tornik Oblast	Tornikaz JV			Joint Venture					JV to develop several oil and gas fields in the Tornik Oblast. Expected yield to be around 4-6 Bcm annually	O&G	Up	Dev	1ST	1											Production: 77,789 bbls in '94; 234,821 bbls in '95;	Export: 72,700 bbls in '94; 184,293 bbls in '95;	
Statoil	Norway	N/A	SOCAR	Azerbaijan	Caspian Sea	Caspian Sea	Bakhar Oil Field	Bakhar PSA	N/A	PSA	*1996	Reported Negotiating	N/A	N/A	In 1996 it was reported that Statoil was negotiating with SOCAR to obtain rights to develop the Bakhar Oil & Condensate Field	O&G	Up	Dev	1ST	1													
Stellan	Germany	N/A	Unknown	Kazakhstan	Pre-Caspian Basin	Alytau Oblast	Beibolek, Ayrantal and Otkryabinskoye Oil Fields	Stellan JV		Joint Venture					To explore 3 undeveloped oil fields in the Alytau Oblast north of the Caspian Sea;	O	Up	Dev	1ST	1	62	62	N/A										
Stewart and Stevenson	USA	Canoco	Akhangel'skiy	Russia	Timan-Pechora	Nenets Aut. Okrug	Ardalin Complex	Polar Lights JV	N/A	Service Contract					Construct to gas turbine generators for the Polar Lights JV	O	Up	S&S	2ND	0		N/A	N/A	N/A	N/A								
Sumitomo	Japan	N/A	SOCAR	Azerbaijan	Caspian Sea	Caspian Sea	Chirag, Azin and Deep Water Section of the Guneshli Fields	AIOC	N/A	Supply Contract		Reported Aug '96	N/A	N/A	Sumitomo of Japan has a supply contract with SOCAR to provide underwater pipelines for AIOC's project to develop the Chirag, Azin and deepwater sections of the Guneshli Oil Field	O&G	Up	S&S	2ND	0		N/A	N/A	N/A	N/A								
Sun Microsystems	USA	N/A	Tatneftegeophysics	Russia					N/A	Supply Contract			N/A	N/A	Sun has supplied Sun Sparcstations 2000s for the purpose of running locally developed interpretation software for exploration	O&G	Up	S&S	1ST	0		N/A	N/A	N/A	N/A								

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Sun Microsystems	USA	N/A	Gazprom	Russia					N/A	Supply Contract			N/A	N/A	Agreement to supply computer equipment to Gazprom	NG	Up	S&S	1ST	0		N/A	N/A	N/A	N/A									
Sun Microsystems	USA	N/A	Russian Ministry of Fuel and Energy	Russia	Moscow Syncline	Moscow Oblast	Moscow		N/A	Supply Contract	Aug-96	Reported	N/A	N/A	Russian Ministry for Fuel & Energy hired Sun Microsystems to set-up a computerized network in Moscow; Estimated cost is \$200 MM	O&G	Up	S&S	1ST	0		N/A	N/A	N/A	N/A		200.00	200.00						
Svenka Petroleum	Sweden	N/A	Gazda State Oil Geology Enterprise	Lithuania	Baltic Syncline	Onshore Lithuania	Genial, Naukade and Kretinga Oil Fields	Genial Nafta JV		Joint Venture		Operational			JV to produce up to 4000 bopd within 2 yrs from a 9.3 MMbbls onshore Genial Field, northeast of Klaipeda; Reserves could be double including 2 other fields.	O	Up	Dev	1ST	1		9	18	N/A			25.00	25.00				Genial field has come on stream 1 yr ahead of schedule of 1,000 bopd; Production expected to rise to 3,000 bopd in late-'94 when permanent facilities are installed, peaking later at 6,000 bopd.		
Swift Energy Co. Inc.	USA	MOL(Hungary); McDermott Holding(USA); Cascade Oil(?)	Senaga JSC held by Urengoygazprom, Pripolyaburgaz and YamalNenets Aut. Okrug Administration; others: Neftelcom?	Russia	Western Siberia	Yamal-Nenets Aut. Okrug	Evo-Yakha and Samburg Fields	Senaga JSC - Samburg Oil Field Development		Joint Venture		YES		In July'96 reported that McDermott, MOL and Swift to formed a consortium to develop the Samburg oil and gas field which Senaga JSC holds the license; MOL to take 26% stake;	Senaga JSC will E&D two oil fields with oil & condensate reserves of 500 MMbbls and 5.1 Tcf of NG; More than 100 wells to be drilled; \$70 MM investment over next 2 yrs with work starting Autumn '96; full production in 7 yrs;	O&G	Up	E&D	1ST	1	26	500	500	144		75.00	425.00	425.00	Swift signed finance protocol with OPEC in Sept. '94 to receive \$165 M in insurance and financing; Swift's initial investment not to exceed 35 MM; Initial development costs \$75 MM; Total development costs \$326M plus \$100 MM	Maximum foreign equity of 16%; Swift claims minimum of 6% net profit;		1st production estimated to be in 1998-99 with peak production in 2003;		
Swift Energy Co. Inc.	USA	MOL(Hungary); McDermott Holding(USA)	N/A	Russia	Western Siberia					Joint Venture	Jul-96	Reported	NO	N/A	Swift Energy Co., MOL and McDermott Holding have formed a consortium to explore for and develop oil and gas deposits in Western Siberia;	O&G	Up	E&D	1ST	0														
TB Com AG (40%)	Switzerland	N/A	Kommehet(26%), Ukhonnetgeologiya(26%), Nefta or otherwise known as Zarubeshneft(10%)	Russia	Timan-Pechora	Komi Republic	Vaykashor, Sered Makankha, Sev. Bagan and Sandreyev Fields and 3200 sq km expl. Block	Nord Oil JV	20	Joint Venture		Operational			JV to develop four fields in Timan-Pechora: 12 fields in contract area; in Jan. '94, 2 under expl., 3 ready for dev., 7 final expl. stage; See Total which terminated its PSA in the spring of 1993 for the same area	O	Up	Dev	1ST	1	20	69	69	N/A	3,200		923.00	923.00	JV reimbursed part of \$17.2 MM spent by Total for pipe laying in abandoned PSA for some fields; CAPEX - \$923 MM, OPEX - \$436 MM; Minimum gross revenues from the sale of 30.6 MMt is \$3,254 Bnt. JV after tax profit \$120 MM; PBP = 13 yrs; After 10% IRR - 14%.					
Technosko	Italy	N/A	Yuganskneftegas, Yuganskneftegas, Irkutskneftegas Association	Russia				Yugansk JV		Joint Venture		Operational				O	Up	Dev	1ST	1														
Teikoku Sekyuu	Japan	Mitsui Sekiyu(Japan), Koshikatsu(Japan), Toyo Engineering(Japan), Santek(Japan)		Russia	Volga-Ural					Joint Venture					JV to increase output of 20-30 well using EOR (chemical agents)	O	Up	EOR	1ST	1		N/A	N/A	N/A	N/A									
Texaco Inc.	USA	N/A	SOCAR	Azerbaijan	Onshore Azerbaijan	Onshore Azerbaijan	Kyursanga Oil Field			Protocol/MOU		Proposal			Joint feasibility study to develop the Kyursanga onshore oil field which was discovered in 1952 and has produced over 9 MMt of crude; New technology is now needed	O	Up	Dev	1ST	1		206	206	13										
Texaco Inc.	USA	N/A	Sulaiminkneft NGDU	Russia	Western Siberia	Yamal-Nenets Aut. Okrug	Sulaimin Oil Field	Sulaimin Oil Field Restoration Project	N/A	Service Contract		Suspended in Summer of 1994	N/A	N/A	Restore 143 idle wells in the Sulaimin Field containing recoverable reserves of 1 Bn bbls; 40% of all wells are idle. Operations began in 1st Qtr '93, suspended in summer of 1994 because export quota was not secured, thus NGDU could not pay Texaco	O	Up	Wkover	1ST	1	2	1,000	1,000	N/A			70.00	80.00	Texaco will spend \$70 MM over the next two years; OPEC will provide \$10 MM in loans and \$13.05 MM in insurance (approved 1993-FY). See also Nabors Int'l Inc. (subcontractor) for an additional \$7.2 MM of PFI			Baseline Production = 140,000 bopd; Texaco to boost output by 15-30,000 bopd; In Apr. '94 incremental production was 16,000 bopd; Eventual goal for incremental production is 30,000 bopd.	Project suspended in summer of 1994 because Novobrainneftegaz failed to secure export quota to pay for Texaco's services.	
Timan Pechora Company - TPC		Texaco Inc.(USA)(24%), Exxon(USA)(24%), Amoco(USA)(16%), Norsk Hydro(Norway)(16%)	Rosneft(20%), Alzhangekneftegas(6%)	Russia	Timan Pechora	Alzhangek Oblast	Varandeyevskoye, Trebo, Titov, Torayevy Fields	Timan Pechora Company TPC	N/A	PSA	Apr-94	PSA not yet approved by RF Gov't. and awaiting PSA Law	YES	Bid by AG to take a 50% stake in project was opposed by TPC. In Apr. '96 the State of Russia announced it would take a 20% stake; on 28Jun. '96 TPC have agreed to the 20% farm-in by Rosneft; Ex.Tec.Am.NH to out stakes by 6%,6%,4%,4% respectively.	Initial rights awarded '90; Apr. '94, 4 western camps formed TPC to carry-out E&D of 11 oil fields in the Varandeyevskoye (870 MMbbls) which is phase 1; total reserves 5.1 Bn bbls; In Sept. '96 Alzhangekneftegas won \$400MM appraisal drilling contract;	O	Up	E&D	1ST	1	80	870	6,100	N/A	7,310	2600.00	46400.00	67900.00	Total expenditures of \$56-80 Bn over 60 yrs including \$4.6 Bn for local env't costs & all exploration wells; \$40 MM signature bonus; 1st phase development \$2-3 Bn; Texaco/TPC spent \$60 MM by end-'93; \$38 Bn of cost to be indemnized.	Russia wants 70% of profit; TPC offered 67.4% with 19.6% RR; Sliding Scale Royalty: 3.6% @ RR=16-17.6%; 6.6% @ RR=17.6-20%; 8.6% @ RR=20-22.6%; 10.6% @ RR=22.6-25%; and 13% @ RR=25%. 96% of Production is designated as cost oil until RR = 16%.	Sliding Scale Profit Oil Split (TPC-Russia): 96.5 @ RR=13.2%; 73.6 @ RR=12-26.4% @ RR=13.2-7; Land Rents: \$60-136/sq km; In Dec. '94 Alzhangekneftegas demanded 60% farm-in; instead Rosneft to farm-in for 20% and provide \$800 MM over 7 yrs.	Estimate Production start-up in '96; Production is expected to reach 120,000 bopd by 2000-2003; peak production of 230,000 bopd in 2006;		
Titan Resources		N/A	SOCAR	Azerbaijan					N/A	Service Contract	*1996	Reported	N/A	N/A	Titan Resources will carry out well workovers for SOCAR	O	Up	Wkover	1ST	0		N/A	N/A	N/A	N/A									

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country	Host Geological or Geographical Region	Host Political Region	Host Location	Name of Project/JV	Charter Capital (\$US MM)	Contract Form	Date Signed or JV Registered	Status	Farm-in	Farm-in Notes	Project Description	O&G NG	Sector	Type	Contract Level	Upstream	Project Duration (Yrs)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Natural Gas Reserves (Bcm)	Acreage (Sq. Km)	Initial Investment (\$US MM)	Total Investment Low Estimate (\$US MM)	Total Investment High Estimate (\$US MM)	Financing Notes	Contract Notes #1	Contract Notes #2	Production Notes	Export Notes
Tokyo Soda Development Ltd.	Japan	N/A	Far East Energy Co.	Russia	Eastern Siberia	Sakha Republic (Yakutia)				Protocol/MOU		Proposal			Development of 1 Tm of NG and 2.25 Bn bbls of oil: two pipelines (4-6000 km each) to Japan and Korea are expected	O&G	Up	Dev	1ST	1		2,250	2,250	1,000			10000.00	14000.00					
Total-Exploration-Development-Russia Stock Company, a subsidiary of Total CFP	France	N/A	Kommert, Rosneft, Minskenergo	Russia	Timan-Pechora	Nenets Aut. Okrug	Khatyngskoye Oil Field	Khatyngskoye PSA	N/A	PSA	1991 Protocol of Intentions was signed; Apr. '92 PSA initiated, approved by govt. ordinance on 5 Nov '95	Awaiting adoption of PSA Law	NO	N/A	Negotiation of PSA for E&D of two pools in Khatyngskoye Field; Development to begin in 2 yrs; Total to invest \$300 MM to bring 1st on stream & \$500 MM for the 2nd; Gov't approval by decree of PSA acquired on 10 Nov '95; part approval still req'd.	O	Up	Dev	1ST	1	30	256	262	0	750	300.00	1119.00	1119.00	CAPEX - \$1,100MM, \$11MM signature bonus; \$2 MM bonus after commercial production; \$250,000 per year for social programmes; \$18.3 MM bonus for previous exploration; Land rental - \$200 /sq. km; Total Acreage = 750 sq. km.	Estimated Sliding Scale Royalty: 6% @ Prod = 0-10MMtpy, 7% @ Prod = 10-20MMtpy, 9% @ Prod = 20-30MMtpy, 11% @ Prod > 30MMtpy. Roy = 11%.	Sliding Scale Profit Oil Split (Total-Russia): 47.7-52.3 @ RR=17.5%, 52.9-47.1 @ RR=17.5-20%, 63.4-36.6 @ RR = 20.1-25%, and 73.8-26.2 @ RR=25%. Overall Russia is to keep 77% of profits?	1st field production to reach 60,000 bopd; 2nd field production could reach 60,000 bopd.	
Total-Exploration-Development-Russia Stock Company (50%), a subsidiary of Total CFP	France	N/A	Tatneft PA (50%)	Russia	Volga-Urals	Tatarstan	Romashkinskoye Field	Tatneft-JV		Joint Venture	*1991	Operational	NO	N/A	ECR project using tertiary recovery (cellulose ether & polymer injection) for Romashkinskoye, Samanovskaya and Tashlyar Sections; Development of 13 small satellites of Romashkinskoye Field; (see also Global Resources Entry)	O	Up	ECR	1ST	1	16 + add'l to 2016	60	60	N/A			174.00	300.00	Total expenditures of \$174-300 MM including \$6 MM in 1st year; 990 MM planned until 1997/98.			Production: 159,140 bbls in '92; 1,025 MMbbls in '93;	Export: 119,720 bbls in '92; 735,100 bbls in '93; 1,703 MMbbls in '94; 1,979 MMbbls in '95;
Trans-Dominion	Canada	Momentum Enterprises (Canada)	Ukrainian	Ukraine	Carpathian Foredeep	Ivano-Frankivsk Oblast	Shtynava Oil & Gas Field		N/A	PSA	Jul-95	Reported Protocol Signed	NO	N/A	Trans-Dominion and Momentum Enterprises signed a protocol with Ukrainian for access to confidential information on the Shtynava oil & gas field in Western Ukraine; if potential to increase production parties will negotiate a PSA	O&G	Up	Dev	1ST	1													
Transocean	Norway	Broken Hill Proprietary Co. (Australia), Hamilton Oil (UK) subsidiary of BHP Petroleum	Gazprom, Rosneft	Russia	Timan-Pechora	Pechora Sea	Piraz-Tomnye Oil Field	Piraz-Tomnye Field Development	N/A	Service Contract	Jun-94	Completed	N/A	N/A	Drilling contractor for Hamilton Oil in Pechora Sea; 1 Appraisal well to be drilled	O	Up	S&S	2ND	0	0.25	N/A	N/A	N/A	N/A								
Tropetal Oil Trading Inc. SA - TOTSA (50%)	Ecuador	N/A	Pemrefit PA (50%)	Russia	Volga-Urals	Penn Oblast	Goryushinskoye and Tulanskoye Oil Fields	Pemrefit-JV		Joint Venture	May-92	Operational	NO	N/A	JV to improve recovery from 24 wells in the Goryushinskoye Field (31 MMbbls); drilled 14 wells and service 28 in 1993; awarded Tulanskoye field license in 1994	O	Up	Dev	1ST	1		31	31						Pemrefit's input to the JV charter capital was the 30.5 MMbbls of reserves of the Goryushinskoye Field.	Denied of export tax exemption despite recommendation by Interdepartmental Commission.		Production: 30,500 bbls in '92; 247,500 bbls in '93; 677,238 bbls in '94; 876,036 bbls in '95;	Export: 0 bbls in '92; 247,500 bbls in '93; 502,357 bbls in '94; 226,824 bbls in '95;
Turk Petroleri Anonim Sirketi - TPAO - Turkish Petroleum Company	Turkey	Occidental Oil & Gas Corp. (USA) (75%)	Bakkenfieldshamp	Turkmenistan	Turkmenistan Basin	Balkhan Oblast	Burun and Baza Gekemes Oil Field			Joint Venture	Nov-93	Withdrawn in Nov '93. Terminated. Possible Farm-in	YES		Occidental won tender in Nov '93; paid a \$20 MM bonus for a western offshore block, including the 210 MMbbl producing Burun Field; but Occidental did not sign the contract.	O	Up	E&D	1ST	1		210	210	224		60.00	60.00	Paid signature bonus of \$20 MM.					
Turk Petroleri Anonim Sirketi - TPAO - Turkish Petroleum Company	Turkey	N/A	Bakkenfieldshamp	Turkmenistan	Turkmenistan Basin	Balkhan Oblast				Protocol/MOU	May-94?	Reported Jun '94 Proposal			Letter of intent signed to form an oil exploration JV in Western Turkmenistan with the State oil company	O	Up	E&D	1ST	0													
Turk Petroleri Anonim Sirketi - TPAO - Turkish Petroleum Company (47%)	Turkey	BMB (Turkey) (75%), Pet Holding (Turkey) (25%)	KazNIGRL and Munargaz (51%)	Kazakhstan	Pre-Caspian Basin & North Ustyurt Basin	West Kazakhstan, Aktyrau, Aqtau, East Sazube, East Aktyrau and Damskaya Blocks	Kazakhstan muna Ltd JV			Joint Venture	*1992	Operational	YES		Original concession won by BMB, but TPAO took over. TPAO is expected to buy out Pet Holding's share by Aug '94	JV has 7 E&D licenses in 4 blocks (-25,000 sq. km); Operational since May '94; 1st test production to be in Sept. '94; TPAO and 1st shipment of Kazakh oil in Dec. '94 at its first Refinery; one of 11 JVs in Kazakhstan (out of 20) '95 actually producing	O	Up	E&D	1ST	1		1,800	1,800	25,000		138.00	800.00	Turkish government has invested \$53 MM to-date and expects to invest another \$85 MM.	Summer '95 accused by Gov't of investing enough		Production estimated to reach 130,000 bopd in '95 and should peak at 48,000 bopd by 2002. Production: 254,450 bbls in '95;	
Ukraineftegasholding	Ukraine	N/A		Russia	Western Siberia				N/A	Unknown					Ukrainian Government-owned company setup to finance development of oil fields in the Tyumen region in Western Siberia. Plans to invest 200 Bn Rubles.	O	Up	Dev	1ST	0													
UNOCAL (50%)	USA	Amoco (50%); Itchu	SOCAR (40%)	Azerbaijan	Caspian Sea	Caspian Sea	Dan Ulduz and Ashrafi Oil Fields		N/A	PSA	Feb-95	Protocol signed in Feb. '95;	YES		Amoco joined the project and apparently Itchu is interested in joining; the latter would form in to SOCAR's share.	UNOCAL signed protocol to explore & conduct studies on 400 km section of the Northern Apsheron Sh.; UNOCAL & Amoco have agreement to pursue joint projects; In July '95 contract close to signing. Expected in Sept. '95; Exploration has started.	O	Up	E&D	1ST	1				400								
UNOCAL	USA	Delta Nimir International (Saudi Arabia)	Uzbekneftegas	Uzbekistan					N/A	Protocol/MOU	May-95	Reported Signed	N/A	N/A	In May 1995 was reported that UNOCAL and Delta Nimir International had signed a protocol of intent to explore for oil & gas in Uzbekistan with Uzbek	O&G	Up	Expl	1ST	0													
Uzbekneftegas	Romania	N/A	KHK Post PO	Kazakhstan				Oralpetro m Service Ltd JV		Joint Venture					JV to provide technical assistance and oil equipment for local market	O&G	Up	S&S	1ST	0		N/A	N/A	N/A	N/A								

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country	Host Geological or Geographical Region	Host Political Region	Host Location	Name of Project/JV	Charter Capital (SUS MM)	Contract Form	Date Signed or JV Registered	Status	Farm-in	Farm-in Notes	Project Description	O & G NG	Sector	Type	Contract Level	Contract Upstream	Project Contract Duration (Yrs)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Natural Gas Reserves (Bcm)	Acreage (Sq. Km)	Initial Investment (SUS MM)	Total Investment Low Estimate (SUS MM)	Total Investment High Estimate (SUS MM)	Financing Notes	Contract Notes #1	Contract Notes #2	Production Notes	Export Notes	
Urals Trading Ltd., part of the Urals Group	Cyprus	N/A	Akbata, Atyrau Refinery	Kazakhstan	Southern Pre-Caspian Basin	Atyrau Oblast	Baldany and Tashbulak Oil Field	Guyul Oil JV		Joint Venture	*1992				JV to develop the Baldany Oil Field (3.6 MMbbls); Baldany lies very near the pipeline that delivers oil to Russia from Kazakhstan; also has license to the Tashbulak oil field (32.7 MMbbls); Summer '96 accused by Gov't of investing enough.	O	Up	Dev	1ST	1		36	36	N/A						Summer '96 accused by Gov't of investing enough.				
Urals-ARA, part of the Urals Group	Belgium	N/A	Uralneftegas, a subsidiary of Lukoil	Russia	Western Siberia	Khatyn-Mansyik Aut. Okrug	Khatynskoye and Sovetskoye Fields	Tursunt JV		JV/PSA	Mar-94	Won tender in Sept. 1993; Lukoil joined; Operational	NO	N/A	Urals-ARA won Sept'93 Tender for developing the Khatyn & Sovetsk Fields; 6 miles later formed JV with subsidiary of Lukoil; Belgium registered company is Russian owned; likely represents return of capital fight, seeking PSA.	O	Up	Dev	1ST	1		26	26	N/A		1.60	70.00	70.00	Total investment is \$70 MM including \$1.5 MM Urals-ARA initially invested; Estimated payback period is 6 yrs.			JV to bring fields on stream by '96; total production in 1st 5 yrs is to be 650,000 tonnes. Production: 0 bbls in '94; 392,580 bbls in '95.	Export: 0 bbls in '94; 304,613 bbls in '95.	
US Exploration Inc.	USA	Aztec Talc(USA), West Asia Co.(USA)	Kyrgyzneft	Kyrgyzstan						Protocol/MOU					Letter of intent was signed by the 3 companies to explore, produce, refine, and operate the petroleum resources in 128 million acres of Kyrgyzstan.	O&G	Up	E&D	1ST	1				618,000	20.00	20.00	20.00	US Exploration will provide \$20 MM for E&D.						
US Oil Capital I	USA	Lape Holding(Turkey) & Eastpac International(UAE)(79%)	Balkanneftehimprom	Turkmenistan	Turkmenistan Basin	Balkan Oblast	Kotur-Tape Oil Field	Lape Oil Capital International at Inc. JV - LOCI		Joint Venture	Jun-93	Tender won Jan.'93, Mar.'94 Terminated	Maybe	After Eastpac pulled out, the JV between Oil Capital and Lape Holding considered the deal, but they too rejected it.	Tender won by Eastpac to develop a section of the inland Kotur-Tape field; to invest \$50 MM in 1st 3yrs; \$180 MM in 1st 5 yrs; plus \$20 MM bonus to be paid; Eastpac canceled its contract in Mar.'94 because of unprofitable contract.	O	Up	Dev	1ST	1	26	642	642	61			160.00	160.00	Paid \$20 MM in signature bonus.			Planned to increase annual production from current production of 16 MMbbls to 23.2-25.5 MMbbls over a 3 yr period.		
US Oil Capital II	USA	Lape Holding(Turkey) & Eastpac International(UAE)(79%)	Balkanneftehimprom	Turkmenistan	Caspian Sea	Caspian Sea	Gulbin, Borkov-Barnov and Uvanov Oil Fields	Lape Oil Capital International at Inc. JV - LOCI		Joint Venture	Jun-93	Rights won early '93, put on hold due to Lape Financial Problems			In early 1993 Oil Capital and Lape Holding obtained rights to form a JV with Balkanneftehimprom to explore and eventually develop the Gulbin, Barnov and Uvanov oil fields in the Caspian Sea.	O	Up	E&D	1ST	1				1,905										
US Steel	USA	N/A	Akhangel'skiy Ogo	Russia	Timan-Pechora	Nenets Aut. Okrug	Ardan Complex	Polar Lights JV	N/A	Supply Contract			N/A	N/A	Supplying Pipe for production lines for the JV operates by sub-contracting Wells.	O	Up	S&S	2ND	0		N/A	N/A	N/A	N/A									
UTRO Ltd.(33%)	UK	N/A	Ultra Oil Refinery and Russian Oil Company (combined 67%)	Russia	Timan-Pechora	Komi Republic		Bitran JV	Rbs 21 MM	Joint Venture		Operational					Up	Dev	1ST	1											Production: 1.64 MMbbls in '93; 3,549 MMbbls in '94; 3,522 MMbbls in '95.	Exports:		
Vanguard Petroleum Ltd.(50.3%)	Australia	Eurasov Petroleum Ltd.(UK)	Magma Oil Co.	Russia	Western Siberia	Khatyn-Mansyik Aut. Okrug	Includes Yuzhnoye and Ruy'Yeganskoye Oil Fields	Siberian Oil Corporation, SINCO JV - Yuzhnoye Field Development		Joint Venture	Dec-91	Operational	YES	Vanguard acquired stake early on & has been progressively increasing its stake ever since; Aug.'93 SINCO seeking farm-in for next phase; Jan.'94 Hardman sold its stake in Eurasov to Vanguard Petroleum which intends to acquire 100% of	SINCO has license to develop 24 oil fields(1700 MMbbls); 45 km pipeline from Yuzhnoye (62 MMbbls) to main trunk pipeline completed in '93; Dev. of Ruy'Yeganskoye field (16 MMbbls) began in Jul.'94; associated NG to be used by Nizhnevartovsk Power Plant	O	Up	Dev	1ST	1		78	78		160,000	20.00	130.00	130.00	Cost of pipeline is \$16.25 MM; Dev. Costs \$35 MM for Ruy'Yugan Field; SINCO to a \$7.5 MM Russian Loan; EBRD to provide \$46 MM loan and Eurobank to provide \$7 MM loan; Vanguard is to arrange for funding to complete Yuzhnoye	In mid-Jun '96 reported that Vanguard Plans to sell a 50.3% stake to Petro-Hunt in Magma, a Russian-based subsidiary, for \$45-53 MM; Petro-Hunt will initially pay \$16 MM for 20% and will hold an 18 month option to acquire a further 30.3%.		Production Plan: 2.34 MMbbls in '93; 4.2 MMbbls in '94; Yuzhnoye went on stream on 10Jun.'93 at 4,000 bopd; 10,000 bopd expected by end of '93 from 17 wells; Prod. of 40,000 bopd from 70 wells; Avg Prod. Cost from Yuzhnoye \$4/bbl.	Export tax exemption granted.	
Vanguard Petroleum Ltd.(50.3%)	Australia	Eurasov Petroleum Ltd.(UK)	Magma Oil Co.	Russia	Western Siberia	Khatyn-Mansyik Aut. Okrug	Orekhovskoye Oil Field	Siberian Oil Company SINCO JV - Orekhovskoye Field Development		Joint Venture	Dec-91	Operational	YES	Vanguard acquired stake early on & has been progressively increasing its stake ever since; Aug.'93 SINCO seeking farm-in for next phase; Jan.'94 Hardman sold its stake in Eurasov to Vanguard Petroleum which intends to acquire 100% of	In Jan.'96 Magma acquired full production license for the Orekhovskoye oil field, its 2nd license; also seeking Nizhnevartovsk Field	O	Up	Dev	1ST	1		34	34											
Vebo Oil AG(57)	Germany	Gas de France(France) & Bayernwerk(Germany) (combined 28%; RWE-DEA(26%))	Yuzhneftegaz(50%)	Kazakhstan	South Turgay Basin	Bay-Orda Oblast	Akshbulak, Aksoy and Nuray Oil Fields	Kazgumun at JV		Joint Venture	Dec-95	Suspended; JV Formed Dec.'95; Operational	MAYBE	Monument Oil and Gas plc reported to be considering a farm-in as of '95	JV to develop the Akshbulak oil field; work planned to start mid-1994; work suspended in '95 JV due to poor political climate; in Mar.'96 reported that project to go ahead.	O	Up	Dev	1ST	1		116	116	N/A		225.00	250.00	Vebo Oil will cover \$56 MM. IFC will lend \$57.5 MM. EBRD is also expected to participate; Vebo turned down official financing package due to "uncertain political and economic climate." July'96 reported that IFC would provide \$55 MM (i.e. 7.5% of \$250			Production to begin in 3rd qtr. '97; initial production to rise to 60,000-80,000 bopd and moving to 200,000 bopd by 1999 after 25-30 more wells are drilled.	Eventual aim is to do an oil swap with Russia through Druzhba pipeline to 230,000 bopd Schwedt refinery in East Germany which Vebo has 37.5% interest.		

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country	Host Geological or Geographical Region	Host Political Region	Host Location	Name of Project/JV	Charter Capital (\$US MM)	Contract Form	Date Signed or JV Registered	Status	Form-in	Form-in Notes	Project Description	O & G NG	Sector	Type	Contract Level	Actual Upstream Project for Contract Duration (Yrs)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Natural Gas Reserves (Bcm)	Acreage (Sq. Km)	Initial Investment (\$US MM)	Total Investment Low Estimate (\$US MM)	Total Investment High Estimate (\$US MM)	Financing Notes	Contract Notes #1	Contract Notes #2	Production Notes	Export Notes	
Yeba Oil AG (30%)	Germany	RWE-DEA(Germany)(30%)	LUKoil(Kaliningrad momeftegaz (15 %), Rosneft (25%))	Russia	Baltic Syncline / Baltic Sea	Kaliningrad Oblast	D-4 Oilfield	KANT JV		Joint Venture	Jun-95	Terminated	NO	N/A	In Jun '95 companies signed agreement to examine the feasibility of forming a JV to develop the D-4 oil field on the Baltic Shelf; Sept '96 Kaliningradmomeftegaz was transferred to LUKoil; As no PSA was signed LUKoil intends to develop the field alone	O	Up	Dev	1ST	1	73	73			250.00	260.00		Negotiations with Western banks with the Russian enterprises to provide financing; Project financing is expected from a consortium of European Banks including ABN Amro and the EBRD; Between \$130-140MM is needed for field					
Veco International Inc.	USA	Pennzoil(USA), Ramco(UK)	SOCAR	Azerbaijan	Caspian Sea	Caspian Sea	Güneshli & Neft Daxhary Oilfields	Güneshli & Neft Daxhary NG Compression Facility	N/A	Service Contract		Successful Completion	N/A	N/A	Program manager for the Pennzoil and Ramco's NG Compression Facility project (See Pennzoil Entry)	NG	Up	S&S	2ND	0	N/A	N/A	N/A	N/A									
Vegrester Co. Ltd.	Hungary	N/A	Embamunagaz, Atyrauneftegaz, Atyrau Regional Administration (combined 35%)	Kazakhstan	Southern Pre-Caspian Basin	Atyrau Oblast	South Karmyskai Field	Embavedo II JV		Joint Venture		Operational	NO	N/A	JV to develop the South Karmyskai Oil Field (22 MMbbls); JV is for 10 years and is extendable; one of 11 JVs in Kazakhstan (out of 20); in '95 actually producing; Summer '96 accused by Gov't of investing enough	O	Up	Dev	1ST	1	10 +	22	22	N/A		9.00	9.00		As of Apr. '95 approximate level of investment is \$9 MM.	Summer '96 accused by Gov't of investing enough		Estimated Production of 1,500 bopd; Production: 6.5 MMbbls in '95;	
Vegrester Co. Ltd. —	Hungary	Chewon(USA)	Government of Kazakhstan	Kazakhstan	South Pre-Caspian Basin	Atyrau Oblast	Tengiz and Karolev oilfields	Tengizchevroil JV	N/A	Service Contract			N/A	N/A	To build oil industry facilities for the Tengiz field; one year agreement worth \$100MM to include infrastructure work (the road construction); agreement can be extended annually	O	Up	S&S	2ND	0	1	N/A	N/A	N/A	N/A	100.00	100.00	100.00					
Veteran Resources Inc. (45%)	Canada	N/A	Yuganskneftegaz (55%)	Russia	Western Siberia	Khar'y-Mans'k Aut. Okrug	Yuzh. Surgut and Salym Fields			Joint Venture	mid-1994		NO	N/A	JV to drill six test horizontal wells; 3D work is being carried out to select well locations; may carry-out some work on the Pirsadomnoye field in Barents Sea?	O	Up	S&S	1ST	0	N/A	N/A	N/A	N/A	30.00	30.00	30.00		Veteran plans to raise \$30 MM to build and mobilize a self-supporting drilling rig for the project.				
Vitol-Cyprus Ltd. a subsidiary of Vitol Holding of the Netherlands (28%)	The Netherlands	Sarnson Investment Company(US)(42%)	Pechoraneftegaz sarababka(30%)	Russia	Timan-Pechora	Komi Republic	Sotchevnu Oil Field plus others	Pechoraneftgas JV		Joint Venture		JV Formed: Oct '95 Form-in	YES		In Oct '95 it was reported that Sarnson Investment Company acquired 60% of the capital stock of Vitol-Cyprus Ltd., which owns 70% of Pechoraneftegaz JV	O	Up	Dev	1ST	1	80	80	N/A								Production: 370,770 bbls in '94; 670,294 bbls in '95;	Export: 295,689 bbls in '95;	
Vyatka Oil Company				Russia	Volga-Ural	Vyatka Oblast	Zolotarevskoye Oil Field			Unknown		Operational			Development of Zolotarevskoye oil field located in Vyatka Oblast in the Volga-Ural Province; Drilling and field construction is already	O	Up	Dev	1ST	1	1,100	1,100											
Wall Whitman Software Inc.	USA	N/A	Geophysical Research Centre	Russia					N/A	Agreement			N/A	N/A	Develop new geophysical techniques and provide well log interpretation services to assist in redeveloping and enhancing of oil and gas production in the FSU	O&G	Up	S&S	1ST	0	N/A	N/A	N/A	N/A									
WaveTech Geophysical Inc.	USA	N/A	Government of Turkmenistan	Turkmenistan	Caspian Sea	Caspian Sea	Caspian Sea		N/A	Service Contract		Operational	NO	N/A	WaveTech Geophysical is carrying out a seismic project in the northern part of Turkmenistan's section of the Caspian Sea; possibly involved in a 2nd project as well	O&G	Up	Geophysics	1ST	0	N/A	N/A	N/A	N/A									
WEAG N.V. (31%)	Belgium	N/A	Petroart JV (49%); Investnatto JV (20%); Ust-Sibirneftegaz aiding?	Russia	Western Siberia	Khar'y-Mans'k Aut. Okrug	West Turgovsk Block	Sibirvestnatto JV	Rbx 25 MM	Joint Venture	Apr-96	Formed	MAYBE		LUKoil Depures the award	O	Up	E&D	1ST	1	258	258	N/A						JV offered to pay signature bonus of \$3.15 MM plus \$1 MM, \$5 MM, & \$4 MM after cumulative production of 1.3 & 5 MMbl of oil respectively.				
Western Atlas International Inc.	USA	MD Seis International Inc.	LUKoil(Russia); Central Geophysical Expedition(Russia); SOCAR(Azerbaijan)	FSU				PetroAlliance Services Co. Ltd. JV		Joint Venture	Jun-95	Operational	NO	N/A	In Jun '95 Western Atlas and MD Seis formed a joint venture to provide oil information services in the FSU; companies will transfer their current operating assets to JV; began working on backlog of contracts worth some \$200 MM (See Digcon Entry)	O&G	Up	Geophysics	1ST	0	N/A	N/A	N/A	N/A									
Western Atlas International Inc.	USA	MD Seis International Inc.	Kazakhstanocapi shell — KCS JSC, a new national oil company	Kazakhstan	Caspian Sea	Caspian Sea	Caspian Sea	PetroAlliance Services Co. Ltd. JV — North Caspian Seismic Consortium Survey	N/A	Service Contract	*1994	Completed	N/A	N/A	Conduct seismic exploration for oil & gas in the Caspian Sea. Operations are to begin in July '94; (see PetroAlliance Services Co. Ltd. Entry)	O&G	Up	Geophysics	2ND	0	N/A	N/A	N/A	N/A									

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country	Host Geological or Geographical Region	Host Political Region	Host Location	Name of Project/JV	Charter Capital (SUS MM)	Contract Form	Date Signed or JV Registered	Status	Form-in	Form-in Notes	Project Description	O & G NG	Sector	Type	Contract Level	Upstream Production (MMbbl/d)	Contract Duration (Yrs)	Recoverable Oil & Gas Condensate Reserves (MMbbl)	Recoverable Oil & Gas Condensate Reserves (MMbbl)	Recoverable Natural Gas Reserves (Bcm)	Acreage (Sq. Km)	Initial Investment (SUS MM)	Total Investment Low Estimate (SUS MM)	Total Investment High Estimate (SUS MM)	Financing Notes	Contract Notes #1	Contract Notes #2	Production Notes	Export Notes		
Western Atlas International Inc.	USA	MD See International Ltd.	Government of Turkmenistan	Turkmenistan	Caspian Sea	Caspian Sea	Caspian Sea	PetroAlliance Services Co. Ltd. JV - Turkmen Seismic Survey	N/A	Service Contract	*1995	Signed Operational Mar. '96	N/A	N/A	In Mar '96 Western Atlas began a seismic survey of the Turkmen sector of the Caspian Sea; will cover the South Caspian Sea floor and the middle Caspian Sea - an area of 70,000 sq. km; 4,350 km of lines will be	O&G	Up	Geophys	1ST	0		N/A	N/A	N/A	N/A										
Western Atlas International Inc.	USA	Eastern Oil Services(Bulgaria)	Government of Ukraine	Ukraine	Black Sea	Black Sea	Black Sea		N/A	Service Contract	Mar-94	Completed	N/A	N/A	Exclusive contract to conduct 6-8 month 2-D seismic survey over 15,000 sq. km area of the Black Sea, as a prelude to the Ukrainian Government's planned offshore licensing tender round. Will begin in	O&G	Up	Geophys	1ST	0		N/A	N/A	N/A	N/A										
Western Atlas International Inc. through its subsidiary Atlas Wireline Services	USA	N/A	Mangystau-Geotekhnika	Kazakhstan	North Ustyurt Basin, South Mangystau	Mangystau Oblast				Joint Venture			N/A	N/A	Provide Wireline services	O&G	Up	SBS	1ST	0		N/A	N/A	N/A	N/A										
Whitehall Corp.	USA	N/A	Gazprom	Russia					N/A	Supply Contract			N/A	N/A	Gazprom purchased a 240 channel offshore digital seismic data acquisition system from Whitehall to upgrade the Professor Ryabinin seismic vessel owned and operated by Sevmorneftegeotekhnika Trust, Murmansk, R's largest geophysical contractor	NG	Up	SBS	1ST	0		N/A	N/A	N/A	N/A										
Xavier Mines Ltd.	Canada	N/A	Kyrgyzneft	Kyrgyzstan	Alay Basin	Novyn Oblast or Osh Oblast?	Alay Block	Alay PSA	N/A	PSA	*1994	Proposal			In '94 Xavier was negotiating with Kyrgyzstan to gain exclusive rights to E&D the Alay Basin; Gov't apparently unhappy with the terms; decision will depend on interest shown in int'l tender; preliminary briefing for tender held 1 Feb. 1994	O	Up	E&D	1ST	1		298	298	N/A	3,200										
Xavier Mines Ltd.	Canada	N/A	Petroleum Technology Company	Russia	Western Siberia	Khatyn-Manskyk Aut. Okrug	East Kamenskoye Oil Field		N/A	Joint Venture	Dec-93	JV Agreement signed 6Dec.93, Operational			Dec. '96 Xavier signed JV agreement with Petco; Xavier began operations in 1994; invested \$8 MM in East Kamenskoye East Field for a pipeline and collection and metering facilities; work completed in Jun. '94; production began in Sept. '94	O	Up	Dev	1ST	1					8.00	8.00	Xavier to raise funds on an "add needed" basis and will contribute funds sufficient for development and operation of business in Russia.	After payment of expenses, parties are entitled to recover prorata equity capital costs plus imputed interest at 12% per annum. After recovery of capital costs, parties to divide net profit 50-50.							
Xavier Mines Ltd.	Canada	N/A	Khatynmanskyk, ettegeology a. Petroleum Technology Co.	Russia	Western Siberia	Khatyn-Manskyk Aut. Okrug	Potany & Kartapynskoye Oil Fields		N/A	Service Contract	Jul-95	Signed	N/A	N/A	Xavier has service contracts with two Russian firms for the operation and development of the Potany and Kartapynskoye Fields; adjacent to Xavier's current operations at the East Kamenskoye Field; project increases Xavier's reserves	O	Up	Dev	1ST	1		N/A	N/A	N/A	N/A										
Zimco Inc.	USA			FSU						Service Contract					Zimco is carrying-out various oil & gas ventures, oil field equipment sales, oil gas and condensate processing, cementing, coking, trucking. Activities in Russia, Kazakhstan, Uzbekistan and	O&G	Up	SBS	1ST	0		N/A	N/A	N/A	N/A										
ZZ-Unknown			SOCAR	Azerbaijan				Azfer JV		Joint Venture		JV Formed, Reported Aug. '96			SOCAR formed the Azfer JV with an unknown foreign partner to carry out submarine pipeline construction	O&G	Up	SBS	1ST	0		N/A	N/A	N/A	N/A										
ZZ-Unknown				Kazakhstan				Karakum una JV		Joint Venture	*1995	JV Formed	NO	N/A	O&G JV formed in 1995 with a Western Partner	O&G	Up	E&D	1ST	1															
ZZ-Unknown				Kyrgyzneft	Kyrgyzstan	East-Chu Depression	Fergana Oblast?	East-Chu Block		N/A	PSA	*1994	Proposal		Concession Block proposed for development by foreign companies (preliminary briefing held 1 Feb. 1994 in Moscow for an international tender for the Alay Basin Concession)	O	Up	E&D	1ST	1		872	872	N/A	5,600										
ZZ-Unknown				Kyrgyzneft	Kyrgyzstan	East-Ishyk-Kul Depression	Karakul Oblast?	East-Ishyk-Kul Block		N/A	PSA	*1994	Proposal		Concession Block proposed for development by foreign companies; preliminary briefing held 1 Feb. 1994 in Moscow for an international tender for the Alay Basin Concession	O	Up	E&D	1ST	1		664	664	N/A	3,000										

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country	Host Geological or Geographical Region	Host Political Region	Host Location	Name of Project/JV	Charter Capital (\$US MM)	Contract Form	Date Signed or JV Registered	Status	Formin	Formin Notes	Project Description	O & G NG	Sector	Type	Contract Level	Actual Upstream Project or Contract Duration (Yrs)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Oil & Gas Condensate Reserves (MMbbls)	Recoverable Natural Gas Reserves (Bcm)	Acreage (Sq Km)	Initial Investment (\$US MM)	Total Investment Low Estimate (\$US MM)	Total Investment High Estimate (\$US MM)	Financing Notes	Contract Notes #1	Contract Notes #2	Production Notes	Export Notes	
ZZ-Unknown	USA			Russia	Western Siberia	Khanty-Mansiysk Aut. Okrug		Petroart JV	Rbs 40 MM	Joint Venture	Aug-93	Formed: Operational	NO	N/A	The Russian-American Petroart JV formed in Aug-93: evaluate of upstream O&G projects in Western Siberia; in Mar '96 announced involvement in new JV called	O&G	Up	E&D	1ST	0	N/A	N/A	N/A	N/A									
ZZ-Unknown	USA	N/A		Russia				Geod JV		Joint Venture					Geophysical data acquisition and seismic data	O&G	Up	S&S	1ST	0	N/A	N/A	N/A	N/A									
ZZ-Unknown				Russia	Timan-Pechora	Komi Republic		Kamol JV		Joint Venture		Operational				O	Up	E&D	1ST	1													
ZZ-Unknown				Russia	Western Siberia	Yamal-Nenets Aut. Okrug	Novo-Urengoy and Vostochno-Urengoy Oil and Gas	Rospan International Ltd. JV		Joint Venture		Operational			Novo-Urengoy and Vostochno-Urengoy Oil and Gas fields were transferred to Rospan from Urengoyneftegazobsluzhba in late 1993 early 1994 is this a foreign JV?	O&G	Up	Dev	1ST	1													
ZZ-Unknown	Germany			Russia				Manol JV		Joint Venture		Operational			Manol JV is a Russian/German oil export/service company; Failed to win the Sept. '96 bidding round for the Zapadno-Makobyskoye field in the Khanty-Mansiysk	O	Up	Dev	1ST	1												Production: 1,222 MMbbls in '93; 2,246 MMbbls in '94; 2,192 MMbbls in '95	Export: 1,211 MMbbls in '93; 1,783 MMbbls in '94; 1,636 MMbbls in '95
ZZ-Unknown				Russia	Volga-Ural	Udmurtia		Udmurtal JV		Joint Venture						O	Up	Dev	1ST	0													
ZZ-Unknown				Russia				Katobnet JV		Joint Venture					Service JV	O	Up	Wkover	1ST	0													Export: 0 bbls in '93; 0 bbls in '94; 210,830 bbls in '95
ZZ-Unknown	Serbia			Ukraine	Dnipro-Donech Basin	Poltava Oblast				Joint Venture	Jun-94	Proposal			Ukrainian and Serbian companies signed a protocol of intent to set up an oil production JV	O	Up	Dev	1ST	0													
																Total				292	80,702	68,864	39,637	2,107,023	\$9,956	\$233,767	\$309,986						

All Totals should equal if there are no blanks

INVESTMENT TOTALS BY SELECTED CRITERIA

Counter
15
Low \$MM Estimate
\$82,118
High \$MM Estimate
\$117,338
Avg \$MM Estimate
\$99,728

The Cells to the immediate left and below enable the user to make project summations according to specified criteria. In the Blue Cells below the user inputs the selection criteria, and the results are returned in Yellow Cells to the left. A sampling of selection criteria are shown in the columns of Gray Cells. In the example shown, we wanted to find the number of reported possible upstream projects in Russia using a PSA structure. The answer is 15, with a potential cumulative investment of \$82 - 117 billion (this does not include those joint ventures intending to switch to a PSA structure, i.e. "JV/PSA" category).

Note: For a summation by company, insert the key part of the foreign company's name with "" both before and after. Carry out twice: Once as Principal Foreign Partner and once as Other

Principal Foreign Partner	Other Foreign Partners	Host Country	Host Geological or Geo-graphical Region	Host Political Region	Contract Form	O O&G NG	Sector	Type	Contract Level	Actual Upstream Project
		Russia			PSA		Up		1ST	1
Mobil	*Exon*	Armenia	Amu-Darya	Atyrau Oblast	Acquisition	O	Up	Dev	1ST	1
Shell	*Mobil*	Azerbaijan	Barents Sea	Balkan Oblast	Agreement	O&G		E&D	2ND	0
TPAO	*Oynx*	Belarus	Caspian Sea	Baltic Sea	Barter	NG		EOR		
etc.	etc.	Estonia	Eastern Siberia	Barents Sea	Concession			Expl		
		Georgia	Ferghana Basin	Black Sea	Joint Venture			Geophys		
		Kazakhstan	Mangyshlak Basin	Caspian Sea	JV/PSA			Rehab		
		Kyrgyzstan	Pechora Sea	Khanty-Mansiysk	Protocol/MOU			S&S		
		Latvia	Pre-Caspian Basin	Mangystau	PSA			Wkover		
		Lithuania	Russian Far East	Pechora Sea	Service Contract					
		Moldova	Timan-Pechora	Sakhalin Oblast	Supply Contract					
		Russia	Volga-Urals	Samara Oblast	Tender					
		Tajikistan	Western Siberia	Tatarstan	Unknown					
		Turkmenistan	Yamal Peninsula	Yamal-Nenets						
		Uzbekistan	etc...	etc...						

Appendix A.3 FOGI Database: Infrastructure

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country (Start)	Transit Country	End Country	Name of Project/JV	Charter Capital (\$US MM)	Contract Form	Date Signed or JV Registered	Status	Farm-in	Farm-in Notes	Project Description	O & G NG	Sector	Type	Contract Level	Actual Intra Project or Contract Duration (Yr)	Total Investment Low Estimate (\$US MM)	Total Investment High Estimate (\$US MM)	Financing Notes	Contract Notes #1	Contract Notes #2		
ABB Netzleittechnik, German subsidiary of ABB	Germany	N/A	Transneft	Russia	N/A	N/A		N/A	Supply Contract			N/A	N/A	ABB Netzleittechnik will supply a control system worth \$80 MM for a Siberian NG pipeline. It will manage 76 km between Gubinsk and Yuzhny-Balyk	NG	Infra	S&S	1ST	0		80.00	80.00				
AEG AG	Germany	N/A	Gazprom	Russia	N/A	N/A	Yamal Natural Gas Pipeline	N/A	Supply Contract	Mar-94	Contract won, Operational	N/A	N/A	AEG AG will provide control and monitoring system for the 1,500 km Yamal pipeline. Equipment will be installed in 1995 and operations are expected to begin in 1997. Cost DM 43	NG	Infra	S&S	2ND	0		30.00	30.00				
AIOC		N/A	Transneft	Azerbaijan	Russia	Russia	Baku-Novorossiysk Pipeline	N/A	Contract	Feb-96	Signed	N/A	N/A	The AIOC signed an export contract with Transneft to export up to 100,000 bopd of early oil from the Chirag Field to Novorossiysk follows earlier agreement between Azerbaijan and Russia in Jan. '96; approx. \$50MM worth of upgrades	O	Infra	Pipe	1ST	0		50.00	50.00				
Albanian, Macedonian and Bulgarian Oil Corporation - AMBO				Bulgaria	Macedonia	Albania	Burgas-Vlore Pipeline	N/A	Joint Venture		Reported	LIKELY		AMBO proposes to build a 48", 530-mile oil pipeline from the Bulgarian Black Sea Port of Burgas to the western coast of Albania. Capacity 40 MMtpy (@ \$650-\$700 MM); AMBO was seeking financing from the World Bank, IFC and EBRD.	O	Infra	Pipe	1ST	1		650.00	700.00	AMBO was seeking financing from the World Bank, IFC and EBRD.			
Aspo Corp.	Finland	N/A		Estonia	N/A	N/A	Muuga Products Terminal	N/A	Service Contract			N/A	N/A	Construction of a new products terminal in Muuga Harbor near Tallinn. It will handle Russian products for export to the West.	O	Infra	Term	1ST	1		8.00	8.00				
BASF	Germany	Erdoel-Edgas Gommern, Ruhrgas, Mannesmann, Preussag, Winterhall, VEBA Oel, BASF and VNG	Gazprom	Russia	Poland	Belarus	Yamal Natural Gas Pipeline							Construction of a 4,107 km NG pipeline from Yamal Peninsula to Germany via Belarus and Poland. Total Cost \$10 Billion; completion 2010; with capacity of 2.37 Tcipy; includes 27 Compressor stations	NG	Infra	Pipe	1ST	1		10000.00	10000.00				
Bechtel	USA	N/A	Georgian International Oil Company - GIOC	Georgia			Georgian Oil Pipeline	N/A	Proposal	Feb-96	Unsuccessful	N/A	N/A	In Feb. '96 Bechtel initiated discussions with GIOC to build a 500 mile pipeline across Georgia (proposal only); Unsuccessful. John Brown Engineers and Constructors Ltd. won the eventual contract from	O	Infra	Pipe	1ST	0							
Bethlehem Steel	USA	US Oil Capital Ltd.(USA), Daiwa Securities(Japan), Austrian Consortium		Azerbaijan	Armenia	Turkey	Baku-Mediterranean Pipeline Project - Armenian Option	N/A	Proposal	Aug-95	Agreement reached	N/A	N/A	Bethlehem has agreed to provide 300,000 tonnes of 42" pipe for the proposed pipeline project; agreement also includes an option in which Pennsylvania Steel Technologies could provide another 300,000 tonnes; total steel needed	O	Infra	S&S	2ND	0							
BOTAS Petroleum Pipeline	Turkey	N/A	SOCAR	Azerbaijan	Iran	Turkey	Baku-Mediterranean Pipeline Project - Iran Option	N/A	Protocol/MOU	Nov-92	Proposed			Proposal to build a 1050 km pipeline from Baku to Ceyhan via Iran at a cost of \$1.4 Bn. capacity of 40 MMtpy. 2 years for construction. US Gov't opposes any route through	O	Infra	Pipe	1ST	1		1400.00	1400.00	Official sponsoring from WB, EBRD is likely.			
BOTAS Petroleum Pipeline	Turkey	Gazprom(Russia)		Turkmenistan	Iran	Turkey			Joint Venture	Jun-95	Proposed			In Jun. '95 it was reported that BOTAS & Gazprom will set up a joint investment company; Turkmen trans-continental gas pipeline is a likely project	NG	Infra	Pipe	1ST	0							

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country (Start)	Transit Country	End Country	Name of Project/JV	Charter Capital (\$US MM)	Contract Form	Date Signed or JV Registered	Status	Farm-in	Farm-in Notes	Project Description	O & G NG	Sector	Type	Contract Level	Actual Infra Project or Contract Duration (Yr)	Total Investment Low Estimate (\$US MM)	Total Investment High Estimate (\$US MM)	Financing Notes	Contract Notes #1	Contract Notes #2
BOTAS Petroleum Pipeline	Turkey	N/A		Turkmenistan	Iran Azerbaijan Armenia	Turkey		N/A	Proposal		Proposal			Proposal to build a twin 4,800 km pipeline from Ashgabat to Turkey via Azerbaijan and Armenia. Initial cost of \$8.5 Bn with capacity of 40 Bampy, as demand increases a parallel pipeline would be	NG	Infra	Pipe	1ST	1	8500.00	13500.00			
BOTAS Petroleum Pipeline	Turkey	N/A	Ulmeftgaz	Ukraine	N/A	Turkey	P&P Joint Stock Company	N/A	Joint Venture	May-94	Proposal			Agreement to bring Mid-East oil to Ukraine via Turkey by pipeline: begin in late 1994, 300 km section from Samsun to Kizikkale, 600 km section from Kizikkale to Ceyhan, Odessa-Kremenchug oil pipeline is underway, 2nd from Odessa to Brodov is also	O	Infra	Pipe	1ST	1	1400.00	1400.00			
Bremer Vulkan Verbund AG	Germany	N/A	Black Sea Shipping Company	Ukraine	N/A	N/A	Ukrainian Tanker Fleet				Proposal			With a German firm Ukraine wants to build a tanker firm of 40 new vessels to bring in oil from other sources, particularly the Gulf States. Half the 4.7 MMt fleet will be built in Ukraine the rest in Germany.	O	Infra	Ship	1ST	1					
Bridas Corp.	Argentina	Government of Pakistan	Government of Turkmenistan	Turkmenistan	Afghanistan	Pakistan	Turkmenistan - Pakistan Natural Gas Export Pipeline		Service Contract	Mar-95		N/A	N/A	Bridas to carry out a pre-feasibility study for a 1250 km pipeline to carry 20-30 Bcm NG over 30 yrs between Turkmenistan & Pakistan; May '95 Turkmen Gov't authorized Bridas to seek investors & contractors; Bridas to be operator; Conflicts with	NG	Infra	Pipe	1ST	1	3000.00	3000.00			
British Gas Pipeline Integrity International Inc.	UK	N/A	Transneft	Russia	N/A	N/A		N/A	Service Contract	Jun-96	Reported	N/A	N/A	In Jun. '96 reported that Transneft let a contract to British Gas Pipeline to supply in-line inspection technology to help maintain its pipeline	O	Infra	S&S	1ST	0					
British Gas plc.	UK	N/A	ZapSibgaspromstrol	Russia	N/A	N/A		N/A	Service Contract		Operational	N/A	N/A	An Agreement to lay a polyethylene gas pipeline in Ishim in Western Siberia; 50kms were installed in 1993 and another 100 kms in	NG	Infra	Pipe	1ST	1					
British Gas plc.	UK	N/A	Lengaz	Russia	N/A	N/A		N/A	Service Contract	May-94	Operational / Finished	N/A	N/A	Global Gas a division of British Gas will modernise gas grid in St. Petersburg by laying polyethylene gas pipelines	NG	Infra	Pipe	1ST	1	0.25				
Broders Prays	The Netherlands	N/A	SOCAR	Azerbaijan	N/A	N/A		N/A	Service Contract	Aug-96	Reported Aug. '96	N/A	N/A	Broders Prays has a contract with SOCAR to carry-out the anti-corrosive treatment of pipes.	O	Up	S&S	2ND	0					
Bula Resources Holdings plc.	Ireland	Sumitomo Chemical Co. Ltd. (Japan)	Tuapse Oil Refinery	Russia	N/A	N/A	Tuapse Terminal Modernisation	N/A	Protocol/MOU		Proposal	LIKELY		Letter of intent to develop, expand and modernise the Black Sea port of Tuapse; Cost \$600 MM. Bula will also receive right to develop potential oil/gas prospects in the Krasnodar	O	Infra	Term	1ST	1	600.00	600.00	Bula will help arrange financing. Sumitomo Chemical Co. Ltd. will lend \$300 MM.		
CEC Holding Ltd.	Hungary	N/A	Government of Komi Republic, Komitek Company	Russia	N/A	N/A	Kharyaga-Head Pipeline	N/A	Agreement			LIKELY	Canadian firms are expected to farm-in to assist in financing.	CEC has signed an agreement to invest \$15 MM in the 135 km Kharyaga Head Structure Pipeline in the Komi Republic; Est. Cost \$500 MM and two lines are to have a capacity of	O	Infra	Pipe	1ST	1	500.00	500.00	Canadian oil companies are expected to finance the project and become founders in a company which will build the pipeline.		
Chevron	USA		Government of Turkey	Turkey	N/A	N/A	Kiyikoy - Irtikbana Pipeline Bosphorus Bypass	N/A	Proposal	*1993/4	Proposal			Chevron proposed a pipeline from Kiyikoy on Turkey's Black Sea Coast to Irtikbana on the Turkish Aegean Coast; 25 MMtpy (@ \$573 MM); 40 MMtpy (@ \$796 MM); or 75 MMtpy (@ \$1,109 MM); Turkey unhappy with idea as it increase tanker traffic in	O	Infra	Pipe	1ST	1	573.00	1109.00			

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Coastal, through its subsidiary Coscol Petroleum Corp.	USA	Sadkora(Sweden)	N/A	Estonia	N/A	N/A	EOS Ltd. JV - Muuga-Maardu Pipeline and Oil Terminal Upgrade		Joint Venture		JV formed; Project Ratified 14 Dec. '95; Seeking Approvals to start work	NO	N/A	The EOS Ltd. JV will build a Muuga-Maardu Oil pipeline and upgrade the Muuga Terminal on Estonia's Baltic Coast; Storage capacity to expand to 800,000 bbls with pipeline capacity of 1.2-1.5 MMtpy; Work to start in '96; See also Aprio Entry?	O	Infra	Term	1ST	1		18.00	20.00			
Compressor Controls Corp.	USA	N/A	Gazprom	Russia	N/A	N/A			Supply Contract			N/A	N/A	To supply turbo-machinery control systems for compressor stations. 1st year of 7 year contract is worth \$51 MM	NG	Infra	S&S	1ST	0	7	\$1.00	350.00			
Consortium of US Firms	USA	Oceanneering International	St. Petersburg Regional Government	Russia	N/A	N/A	Primorsk Oil Products Terminal		Service Contract			N/A	N/A	Contract to build a floating oil storage facility. Oceanneering International will build the tank.	O	Infra	Term	1ST	1						
DC Halder Networks Ltd.	Ireland	N/A	Transneft	Russia	N/A	N/A		N/A	Supply Contract	Mar-96	Reported	N/A	N/A	In late Mar. '96 DC Halder Networks of Ireland will install a computerised crude and petroleum product pipeline management system at	O	Infra	S&S	1ST	0		1.80	1.80			
Edison, subsidiary of Montedison(51%)	Italy	N/A	Gazprom(49%)	Russia		Italy	Volta Spa		Joint Venture	Sep-95	Signed	LIKELY	Wintershall(Germany) may join later in 1995	JV to build a new 1,000 km pipeline from Russia to Italy; over next 8 months Volta will carry out a technical study to determine the route with the aim of	NG	Infra	Pipe	1ST	1						
Enron Oil & Gas Inc.	USA	Wing Menit	BOTAS(Turkey), Gama Gurs(Turkey)	Turkmenistan	Azerbaijan	Turkey			Service Contract		Signed	N/A	N/A	Feasibility study of NG pipeline from Turkmenistan, under the Caspian Sea to Baku, and on to Turkey	NG	Infra	Pipe	1ST	0						
Flour Daniel	USA	AIOC	SOCAR	Azerbaijan	N/A	Georgia	AIOC Export Pipeline Study	N/A	Service Contract	Aug-95	Operational; Finished	N/A	N/A	In Aug. '95 AIOC contracted Fluor Daniel to provide engineering & design services for pipeline transport of early oil production (decision to be made by Autumn of '95); Dual route chosen: 1 pipeline through Georgia	O	Infra	Pipe	2ND	0						
Flour Daniel Inc.	USA	LUKoil(Russia)(0%), EBRD(0%), AGIP(Italy)(0%)	Buntine Terminal Stock Company(100%)	Lithuania	N/A	N/A	Buntine Oil Terminal		Contract		Talks broke down with Gov't.	YES	In Apr. '95 after breakdown in talks Gov't decided to go it alone with company called BT; July '96 Gov't stated it will reduce its stake from 51% to 34%	Partners to build an oil terminal at Butinge; construction to begin in Apr. '95 & be completed by mid-97; Terminal designed to pump 8 MMtpy of oil and 2.5 MMtpy of products; due to \$ constraints \$50 MM pipeline section canceled; cost is now \$150-160 MM	O	Infra	Term	1ST	1		150.00	160.00	93 EBRD Proposal rejected; Mar. '95 LUKoil & AGIP pulled out; Gov't formed new consortium; May '95 JEXIM offered 60% loan @ 8.2% provision on Gov't underwriting 40%; Oct. '95 USEXIM provisionally offered \$80 MM credit, \$5 MM	Of the \$160 MM proposed Gov't was to provide - \$90 MM but as of July '96 only \$15 MM has been provided.	Ownership of BT is as follows: Mazeikiiai Nafta Oil Refinery(87%), Klaipeda Oil Import & Export Company(5%), Birzu Oil Pipeline(5%), Innovation Bank(1%), Palanga Town Council(3%).
Gaz de France(50%)	France	N/A	Kazkhgaz(25%), Kazakhgaz(25%)	Kazakhstan	N/A	N/A	Kazakhtrazgaz JV		Joint Venture	Jun-92		NO	N/A	JV to study gas transportation and storage in Kazakhstan and to improve the distribution and transmission grids. Work to start in Alma-Ata, Dzhambul and Chimkent in 1993, this is a foot in the	NG	Infra	S&S	1ST	0				Immediate expenses to be recouped by through barter deals or subsidies from international aid and lending organisations.		
Gazprom	Russia	N/A	Moldovagas	Moldova	N/A	N/A			Joint Venture	Apr-94	Reported	NO	N/A	JV between Gazprom and Moldovagas is to finance, build and operate natural gas pipelines in Moldova; Gazprom to be the majority shareholder	NG	Infra	Pipe	1ST	0						
Gazprom	Russia	N/A	Beltransgaz	Belarus	N/A	N/A			Joint Venture	Dec-94	Reported	NO	N/A	JV between Gazprom and Beltransgaz is to finance, build and operate natural gas pipelines in Belarus.	NG	Infra	Pipe	1ST	0						

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Gazprom(25%)	Russia	N/A	Neste OY(Finland)(75%)	Russia	N/A	Finland	Gasum Oy JV		Joint Venture	May-94	Formed	NO	N/A	Agreement reached; JV formed 1May94; JV will examine proposal to build new NG pipeline from Russia to Finland to major markets in Europe:	NG	Infra	Pipe	1ST	0		288.00	288.00			
Gazprom(51%)	Russia	International Energy Corporation(US)(5%)	Turkmenistan Ministry of Oil and Gas(44%)	Turkmenistan	N/A	N/A	Turkmenros gaz JV		Joint Venture	Nov-95	Agreement to form JV signed	NO	N/A	On 16Nov.95 Gazprom and the Turkmenistan Ministry of Oil & Gas signed an agreement to form a new JV, Turkmenros gaz, to handle all Turkmen gas exports to CIS countries; New JV to supply 23 Bcm of NG to Ukraine in '96; JV will also carry out E&D	NG	Infra	Export	1ST	0						
Gazprom(50%)	Russia	N/A	Bulgargas(25%); Bulbank, 1st Private Bank, Chimimport Trading Company, Multigroup, Overgas(combined 25%)	Bulgaria	N/A	N/A	Tapenergy JV	Lv 120 MM	Joint Venture	Protocol between Gov'ts signed in Jan./Feb.94; JV formed 95?		YES	When charter capital was increased to Lv 120 MM, from Lv 60 MM, Bulgargas did not participate, 5 new Bulgarian companies came in, two of which are supposed to have partial ownership by	Tapenergy JV is to build a NG pipeline and distribution system in Bulgaria from Russia; Due to expect closure of Kozlodul nuclear power plant Bulgaria's NG consumption is to rise to 8 Bcm by 2010; investment required \$500 MM over next 6 yrs	NG	Infra	Pipe	1ST	0		500.00	500.00			
Gazprom(50%)	Russia	N/A	Ukrzagazprom(50%)	Ukraine	N/A	N/A	Gaztransit JV		Joint Venture	Apr-95	Reported	NO	N/A	JV between Gazprom and Ukrzagazprom is to finance, build and operate natural gas pipelines in Ukraine.	NG	Infra	Pipe	1ST	0						
Gazprom()	Russia	Government of Russia	Government of Greece(25%), Government of Bulgaria(25%), Latis Group(Greece)(), Kapelauzas Group(Greece)(Bulgaria	N/A	Greece	Trans-Balkan Pipeline Company Burgas - Alexandroupolis Pipeline	\$130 MM	Joint Venture	Gov't Agreement reached in Apr.95;		LIKELY	Rosneft is apparently considering a farm-in	Trans-Balkan Pipeline is to build a pipeline from Burgas to Alexandroupolis; In Apr.95 Giprogazcenter a subsidiary of Gazprom finalised a pre-FS; 317km, 32 MMtpy capacity; \$650-700 MM cost; to be endorsed in	O	Infra	Pipe	1ST	1		650.00	700.00	EBRD financing is being sought		
Government of Estonia	Estonia	N/A		Russia	N/A	Estonia	Kirshi-Muuga Pipeline			Jan-96	Proposal report Jan. '96	LIKELY	Possible Candidates:Texaco, Total, Norsk Hydro, Gazprom & Transneft	Estonian Government is studying a proposal to build a 425 km Kirshi-Muuga pipeline to carry 20-25 MMtpy; Gov't will seek foreign partners	O	Infra	Pipe	1ST	1		1000.00	1000.00			
Government of Iran	Iran	Government of Turkmenistan	Government of Ukraine	Turkmenistan	Iran Turkey	Ukraine			Agreement	Apr.95	Proposal	N/A	N/A	In Apr.95 a tripartite agreement was reached between the government of Ukraine, Turkmenistan and Iran whereby Ukraine would buy NG from Turkmenistan passing through Iran; Details are	NG	Infra	Pipe	1ST	0						
Government of Iran	Iran	N/A	Government of Turkmenistan	Turkmenistan	N/A	Iran	Turkmen-Iran NG Pipeline	N/A	Agreement	Sep-95	Deal finally signed on 5Sep.95	NO	N/A	In July95 deal reported; 5Sep.95 Iran & Turkmenistan signed an agreement to build a 140km, 8 Bcm/yr NG pipeline from Kopardzhe NG Field to Kurkuf? in Northern Iran; Iran will carry out design & construction;	NG	Infra	Pipe	1ST	1		190.00	215.00	Iran will finance 80% of the total cost while Turkmenistan will fund the construction of the 70 km section on its territory to be paid with gas deliveries in th first three years of operation		
Government of Iran	Iran	N/A	Government of Turkmenistan	Turkmenistan	N/A	Iran	Turkmen-Iran Oil Pipeline	N/A	Agreement	Apr.94	Proposal	NO	N/A	The 2 governments have agreed to study building a 80,000-140,000 bopd oil pipeline to Teheran's oil refinery via Sari a city 180km northeast of Teheran; very preliminary	O	Infra	Pipe	1ST	1						
Government of Iran - Iran's National Gas Company	Iran	N/A	Armigazprom - Armenian State Gas Company	Armenia	N/A	Iran	Armenia-Iran Natural Gas Pipeline Project	N/A	Agreement	May-95	Agreement	NO	N/A	Agreement was signed between the two governments whereby Iran has agreed to provide Armenia with NG for 20 yrs and to build a NG pipeline; Iran's national gas company began construction of a \$70 MM.	NG	Infra	Pipe	1ST	1	20	70.00	70.00			

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Government of Lithuania	Lithuania	N/A	Government of Latvia	Latvia	N/A	N/A	Liepaja Oil Terminal	N/A	Protocol/MOU		Protocol expected in Mar. '94	NO	N/A	The two countries have signed a final accord to build an oil terminal at Liepaja on the Latvian coast; a protocol outlining the project plan is	O	Infra	Term	1ST	1						
Government of Pakistan	Pakistan	N/A	Government of Turkmenistan	Turkmenistan	Afghanistan	Pakistan	Turkmenistan-Pakistan Pipeline Project		Protocol/MOU	Mar-95	MOU Signed; Negotiations Ongoing; As of Sept. '95 little progress	NO	N/A	The 2 Gov'ts signed an MOU for the construction of a 1000 km, 2 MMcfd (21 MMcmpp) NG pipeline linking the Dausetabad NG field in Turkmenistan and the Pakistan City of Sun via Afghanistan. Pre-feasibility study, to be carried out by Bidas Corp.	NG	Infra	Pipe	1ST	0	3000.00	3000.00	Funding is to be carried out entirely by the private sector			
Government of Russia	Russia	Government of Kazakhstan	Government of Turkmenistan, Government of Turkey, Government of Iran	Turkmenistan	Iran/Turkey	Europe	Turkmenistan Transcontinental Pipeline (TTP) JV		Agreement	Aug-94	Proposal, then agreement	YES	In a 17 Jan. '95 agreement between now 5 Gov'ts agreed to form a JSC called Turkmenistan Transcontinental Pipeline (TTP) to implement the project	In Aug. '94 Iran & Turkmenistan signed an agreement to build a 4000 km pipeline to Europe; 1st phase, \$3-3.5 Bn. 15 Bcmpp, 1,400 km line to Turkey to meet domestic demand; Capacity to be increased to 28 Bcm when section to Europe is built;	NG	Infra	Pipe	1ST	1	3000.00	3500.00	Half the finance will be provided by Iran.			
Government of Russia (24%)	Russia	Chevron(US)(15%), Lukoil(Russia)(12.5%), Mobil(US)(7.5%), Rosneft(Russia)(7.5%); AGIP(Italy)(2%), Oym(US)(1.75%), British Gas(UK)(2%), Oman Oil Company(Oman)(7%)	Government of Kazakhstan(19%); Tengismunaigaz(1.75%)	Kazakhstan	N/A	Russia	Caspian Pipeline Consortium — CPC		Joint Venture	Jun-92	Operational	YES	31 Oct. '95 reported that new consortium to be formed because Oman failed to meet financial obligations; On 27 Apr. '95 original CPC members reduced stakes and signed a protocol to farm-out 50% to consortium of	7 Jun. '92 Kazakhstan & Oman formed CPC; 23 Jul. '92 Russia signed protocol to join; 30 Jun. '93 RF Parliament ratified decision; To build 1,440 km (\$1.2-1.5 billion) pipeline from Tengiz field to Novorossiysk on the Black Sea;	O	Infra	Pipe	1ST	1	5	1200.00	1500.00	In May '94 Chevron was offered & refused a 25% stake in return for 50% of the cost (\$300 MM cash & \$900 MM in guarantees); Oman only offered \$25-\$30 MM for its 25% stake;	Imperial Bank one of Russia's largest is holding talks on financing. EBRD is also a possibility.	
Government of Russia (34%)	Russia	N/A	Government of Latvia(66%)	Russia	N/A	Latvia	Ventspils Oil Product Terminal and Pipeline		Joint Venture	Apr-94	Agreement reached	NO	N/A	Governments of Latvia and Russia have agreed to jointly operate an oil products pipeline running from Volga River Refinery Centre in Samara Oblast to the Baltic Port of Ventspils	O	Infra	Pipe	1ST	0						
Government of Turkey	Turkey	N/A	Government of Georgia	Georgia	N/A	Turkey		N/A	Protocol/MOU	Jul-95	Signed	N/A	N/A	On 31 July 1995 the Governments of Georgia and Turkey signed a framework agreement on oil pipeline cooperation	O	Infra	Pipe	1ST	0						
Gumisto Natfve Gazownista	Poland	Gaz Trading(Poland)	Gazprom	Russia	Belarus	Poland	Europal Gaz JV - Yamal Gas Pipeline		Joint Venture		Operational	NO	N/A	Poland & Russia signed an agreement for construction of 670 km trans-Poland segment of the pipeline to deliver NG from Yamal Peninsula to Germany; \$2.5 Bn Polish section to be built by Europal Gaz; entire pipeline is \$10 Bn	NG	Infra	Pipe	1ST	1	2500.00	2500.00				
Hartec	USA	AES(Australian)	Komineft	Russia	Western Siberia	Komi Republic	Komi Oil Spill Cleanup	N/A	Service Contract	Apr-95	Completed	N/A	N/A	Western JV of AES/Hartec is to clean up the Autumn 1994 Komi oil spill. AES/Hartec will get \$45 MM, \$55 MM will be used to replace pipeline; AES completed operations in Sept. '95; 94% of free oil	O	Infra	Pipe	1ST	1	0.5	140.00	140.00	World Bank — \$99 MM loan, EBRD — \$25 MM loan, Komineft — \$16 MM		
Industria Naftal-INA	Croatia	N/A	Far Eastern Oil Company	Russia	N/A	N/A	Vostochnyy Oil Terminal	N/A	Service Contract	Apr-94	Signed	N/A	N/A	INA signed a \$122.5 MM contract for the construction of an oil terminal at the port of Vostochnyy; expected to take 30 months; will boost ports capacity to 4 MMtpy; INA beat competition from Germany, South Korea; China, Netherlands, France	O	Infra	Term	1ST	1	2.5	122.50	122.50			

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International Pipeline Co., division of Nimir Petroleum	Saudi Arabia	N/A	Munaigaz	Kazakhstan	N/A	N/A			Protocol/MOU Will become a Joint Venture	Jul-95	Preliminary			International Pipeline Co. signed a MOU with Munaigaz in July 1995 to rehabilitate and expand Kazakhstan's aging oil and gas pipeline network.	O&G	Infra	Pipe	1ST	0	20	8000.00	9000.00			
John Brown Engineers and Constructors Ltd., subsidiary of Kvaerner	UK	Baku Kvaerner Kenny(Azerbaijan); Tbilisi John Brown Kvaerner (Georgia); Kvaerner Engineering	SOCAR	Azerbaijan	N/A	Georgia	AIOC Western "Georgian Option" Export Pipeline	N/A	Service Contract	Jul-95		N/A	N/A	John Brown Engineers and Constructors have been contracted by AIOC to build and refurbish 946 km pipeline from Baku to Supsa in Georgia; Cost est. \$250-275 MM; 2 years to complete; Capacity 7	O	Infra	Pipe	1ST	1	2	250.00	275.00			
Krupp GHI/Ruhrkohle/NO as GmbH	Germany	N/A		Lithuania	N/A	N/A	Kaunas Rail Terminal	N/A	Proposal	Jun-95	Proposal			A German consortium has presented a plan to construct a mixed freight rail terminal specialising in oil and dry cargoes in southern Kaunas for Russian exports heading west; Lithuanians are to conduct FS with a \$1 MM grant from	O	Infra	Term	1ST	1		200.00	200.00	EU is supply \$1 MM to Lithuanian authorities to conduct a FS study		
Lancaster District Steel Co. (49%)	USA	N/A	Klaipeda Nafta(51%)	Lithuania	N/A	N/A	Klaipeda Nafta JV — Klaipeda Oil Terminal		Joint Venture			NO	N/A	JV to modernise Klaipeda oil complex by extending the tanker terminal connected to rail line; Storage - 20,000 tonnes, capacity of be 6 MMtpy fuel oil & 800 MMtpy products; Construction began Feb. '95 to be completed Mar. '98 (see	O	Infra	Term	1ST	1				Dec. '95 reported that ABN Amro Bank N.V. will lend \$10 MM for the purchase of equipment; contract to be signed late 1995, early 1996; loan for 5 years at 8.6%; Klaipeda Assets will be used as security		
Larsen	Sweden	N/A	The General Directorate for the Realization of the Programme of the Revival of Russia's	Russia	N/A	N/A	Primorsk Oil Products Terminal	N/A	Service Contract	Aug-96	Reported	NO	N/A	Larsen of Sweden intends to invest up to \$30 MM in an oil products terminal in Primorsk; 4 MMtpy terminal is to be part of a new planned oil export port (19 MMtpy) costing - \$650 MM.	O	Infra	Term	1ST	1		650.00	650.00			
Lafitis/Capelaouas	Greece	N/A	Gazprom(Russia)(33.3%)	Russia	Bulgaria	Greece	Prometheus Gas JV		Joint Venture			NO	N/A	The JV to build a pipeline from Russia through Bulgaria to Greece; Jun. '95 Bulgaria, Greece & Russia agreed to build 175 mile Transbalkan pipeline with capacity of 600,000 bopd (\$668 MM) & 2 terminals (\$306 MM); est 3.5yrs to build; operational by 2000	O	Infra	Pipe	1ST	1		1000.00	1500.00	EU has agreed to fund 70% (i.e. \$1.05 Bn) of the \$1.5 Bn pipeline from Russia and Bulgaria to northern Greece.		
Mitsubishi Corp.	Japan	China National Petroleum Company(China); Exxon Corp.	Government of Turkmenistan	Turkmenistan	Kazakhstan	China	Trans-Asian Pipeline Study	N/A	Contract		Operational	YES	In Aug. '95 Esso China Inc., a subsidiary of Exxon, announced it would join the CNPC and Mitsubishi study	CNPC, Mitsubishi & Exxon are carrying out a pre-FS for a 6,000 km pipeline from Turkmenistan to the Pacific via Kazakhstan; Pre-FS will begin in Sept. '95 & take 1 year.	NG	Infra	Pipe	1ST	0	1	10300.00	10300.00	In Aug. '95 it was reported that the UN & WB would fund a FS which would take 2 yrs		
National Petroleum Ltd.	Switzerland	N/A	Government of Tatarstan	Russia	N/A	N/A	Tatarstan Tanker Fleet	N/A	Supply Contract		Possible signing Summer of 1995	N/A	N/A	In Apr. '95 report that Nat Pet Ltd. could sign in a few months a contract to build an oil tanker fleet. The building of the 1st tanker has been financed out of the Tatar budget; 27 river-sea tankers will cost \$200 MM i.e. \$5-6.5 MM each.	O	Infra	Ship	1ST	1		200.00	200.00	1st of two tankers will be financed out of the Tatar budget. If a loan is provided 1st tanker could be finished by fall of 1995.		
Neste OY	Finland	N/A	Transneft	Russia	N/A	Finland	Kirishi-Porvoo Pipeline	N/A	Contract		Feasibility Study Underway	N/A	N/A	Study to build a 400 km oil pipeline from Kirishi refinery to Neste's refinery in Porvoo; In Mar. '96 a prefeasibility study was completed on \$1.3 bn pipeline from Yaroslavl to Kirishi to Porvoo; More	O	Infra	Pipe	1ST	0		400.00	500.00			
Neste OY	Finland	N/A		Latvia	N/A	N/A	Riga Oil Products Storage Terminal	N/A	Contract	Mar-96	Design Work Underway	N/A	N/A	Neste has started design work on a 30,000 cubic metre oil products storage terminal to be built in Riga; 6 oil companies have applied for sites to store and transfer imported products. Design work will	O	Infra	Term	1ST	0						

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Norsk Hydro	Norway	Texaco(US), Conoco(US), Exxon(US), Amoco(US), Neste Oy(Finland), Hamilton Oil(UK), Saga(Norway), Shell(UK/Netherlands)	Nenets Regional Administration, Rosneft, Arkhangelskregion	Russia	N/A	N/A	Northern Gates Terminal	N/A	Proposal		3rd stage FS to begin in Apr. '96	LIKELY		Plan to build 4 oil terminals. 300 Kbpd Indiga terminal & 650 km pipeline(\$2.1 Bn), Kalguyev Is. terminal & 700 km pipeline (\$1.6 Bn). 300 Kbpd terminal at Varadeya(\$1.6 Bn); 300 Kbpd Open-water terminal 200 km west of Kalguyev Is.(\$1.8 Bn)	O	Infra	Term Pipe	1ST	1	7100.00	7100.00			
PETROFAC		McConnell Dowell	SOCAR	Azerbaijan	N/A	Russia	AIOC Northern "Russian Option" Export Pipeline	N/A	Service Contract	*1996	Operational	N/A	N/A	PETROFAC and McConnell Dowell have been contracted to refurbish the pipeline running from Baku to the Russian port of Novorossiysk. Capacity of Azeri section 9 MMtpy; capacity of Russian section	O	Infra	Pipe	1ST	1	50.00	50.00			
Royal Dutch/Shell Group - Pecten Subsidiary	UK / Netherlands	Gazprom(Russia)	Several Ukrainian Companies	Russia	Ukraine	Europe	Ukraine Natural Gas Trunk Pipeline		Proposal	Jul-96	Proposal Reported			In Jul. '96 reported that Pecten, a subsidiary of Royal Dutch/Shell was considering building a NG pipeline with Gazprom in Ukraine, to connect Russia with Western Europe.	NG	Infra	Pipe	1ST	0					
Royal Dutch/Shell - Shell Exploration B.V. (49%)	UK / Netherlands	N/A	Rosneft(Russia)(51%)	Kazakhstan	N/A	Russia	? JV - Caspian Pipeline Consortium		Joint Venture	Jun-96	Interim Agreement Signed	NO	N/A	Rosneft and Shell have signed an interim agreement to form a joint venture which will finance Rosneft's share in the CPC's proposal to construct a pipeline from Tengiz to	O	Infra	Pipe	1ST	0					
Ruhrgas AG	Germany	N/A	Vladimirabgaz	Russia	N/A	N/A	Vladimir NG Savings Project	N/A	Agreement	Jan-96	Reported Signed	N/A	N/A	Ruhrgas signed a NG savings and gas-line renewal agreement with Vladimirabgaz, likely to use part of the \$100 MM World Bank Loan. Expected to save 50% of household NG usage in the city of	NG	Infra	S&S	1ST	0	100.00	100.00	Likely from World Bank.		
Sea-Land Service	USA	N/A	Government of Georgia	Georgia	N/A	N/A	Poti Container Terminal	N/A	Service Contract	Nov-95	Proposal Reported	N/A	N/A	In Nov. '95 reported that Sea-Land Service offered to build a container terminal at the Black Sea Port of Poti and run an express service railway that would transport equipment & material to oil projects in Azerbaijan & Kazakhstan	O&G	Infra	Port Rail	1ST	1					
Siemens AG	Germany	MMG AM(Hungary), PEP Modular Computers(Germany), Cegelec(France)		Ukraine	N/A	N/A	Automated Control System for Druzhba Pipeline		Service Contract	Apr-94	July '95 Reviewing applications	N/A	N/A	In Apr. '94 Kiev Institute of Oil Transport opened a tender for the construction of an automated control system for pumping stations on the Druzhba pipeline; suggested costs: MMG AM - \$1,454,000, Siemens - \$1,377,793, PEP - \$846,972.	O	Infra	S&S	1ST	0					
Single Buoy Moorings - SBM	Switzerland	JP Kenny Exploration and Production(UK)		Ukraine	N/A	N/A	Yuzhny Oil Terminal		Contract	*1993	Unknown			SBM won a tender in '93 for the construction of a new 40 MMtpy oil terminal at Yuzhny, near Odessa; Cost - \$160 MM total; 1st phase \$28 MM single buoy mooring; 2nd phase includes new pipelines; Project delayed to due Envtl. opposition.	O	Infra	Term	1ST	1	160.00	160.00	GiroCredit(Austria) are the financial and technical advisors - in 1994 were seeking Middle East investors, wanted to finalised financing package by mid-1994; Financing was also sought from Pragma International (US)		
Sofregaz	France	N/A	Azerigas	Azerbaijan	N/A	N/A	Azerbaijan NG Sector Study	N/A	Contract	Feb-96	Signed	N/A	N/A	In Mar. '94 Sofregaz completed consultations with Azerigas for the reconstruction of Azerbaijan's NG pipeline system; Draft on construction would be put into effect with assistance of World Bank \$775,000	NG	Infra	Pipe	1ST	0	0.80	0.80	World Bank will provide \$775,000 grant for the study		

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country (Start)	Transit Country	End Country	Name of Project/JV	Charter Capital (\$US MM)	Contract Form	Date Signed or JV Registered	Status	Farm-in	Farm-in Notes	Project Description	O & G NG	Sector	Type	Contract Level	Actual Intra Project or Contract Duration (Yr)	Total Investment Low Estimate (\$US MM)	Total Investment High Estimate (\$US MM)	Financing Notes	Contract Notes #1	Contract Notes #2	
Tebodin	Netherlands	Lancaster Steel		Lithuania	N/A	N/A	Klapeda Oil Terminal Upgrade	N/A	Service Contract			N/A	N/A	Tebodin designed modernisation plan for Klapeda's oil complex (see Lancaster Steel Entry)	O	Infra	Term	2ND	1		80.00	100.00			
Trogas (Italian Consortium)	Italy	Snamprogetti(Italy), Nuovo Pignone(Italy)	Gazprom	Russia	N/A	N/A		N/A	Supply Contract		Operational	N/A	N/A	A \$1.6 Bn contract to replace and modify NG turbines for pipelines. Equip delivery begins in Dec.'94 for refurbishing 161 turbines using GE technology; Completion in Mar.'98 will increase export capacity by 5.5 Bcmpy.	NG	Infra	Pipe	1ST	1		2000.00	2000.00	In Dec.'93 SACE (Italy's ECA's) approved a \$1.6 Bn guarantee (i.e., 80% of the costs. Repayment will be from proceeds of 5.5 Bcmpy deliveries of NG to SNAM. SNAM will pay for NG into an	Ente Nazionale Idrocarburi SpA (ENI) Accord signed with Gazprom on 6Dec.'93 outlining the principles and terms for the credit;	
Tranex International	Greece	N/A	Gruzneft	Georgia	N/A	N/A	GTL JV - Supsa Oil Terminal		Joint Venture			N/A	N/A	JV to build an oil export outlet at Supsa, located between Batumi and Poti; Outlet will handle 6 MMtpy of crude oil from Russia, Azerbaijan, Kazakhstan and Turkmenistan; Work is underway on the building 8 tank farms each with 20,000 tonne capacity.	O	Infra	Term	1ST	1						
Transchemical Corp.	USA	N/A	Nizhnekamskneftelk	Russia	N/A	N/A	Transkama JV		Joint Venture			N/A	N/A	JV to build a new oil terminal port near Nizhnekamsk on the Kama River; Construction will take 3yrs costing \$100 MM; Total capacity of 2.5	O	Infra	Term	1ST	1	3	100.00	100.00			
Turbo Power and Marine System, a division of Pratt	USA	Man GHH(Germany)	Gazprom	Russia	N/A	N/A			Supply Contract		Should be signed by the end of 1995	N/A	N/A	Turbo Power is negotiating a contract to sell 20-30 turbines @ \$13-17 MM each.	O	Infra	S&S	1ST	0		260.00	510.00			
UNOCAL	USA	N/A	Government of Turkmenistan; Government of Pakistan	Turkmenistan	Afghanistan	Pakistan	Turkmenistan-Afghanistan-Pakistan Oil Pipeline		Proposal		Proposal			UNOCAL also plans to build an 1,800 km oil pipeline from Chardzhou in Turkmenistan to Gwadar on Pakistan's southwestern coast; Capacity 1 MMbopd which will cost about	O	Infra	Pipe	1ST	1		5000.00	5000.00			
UNOCAL(51%)	USA	Delta Oil Company(Saudi Arabia)(34%); Gazprom(10%); Turkmenrusgaz(5%)	Government of Turkmenistan; Government of Pakistan	Turkmenistan	Afghanistan	Pakistan	Turkmenistan-Afghanistan-Pakistan Natural Gas Pipeline		Agreement	Oct-95	Proposal	NO	13Aug.'96 Gazprom & Russian-Turkmen JV Turkmenrusgaz signed an MOU with UNOCAL & Delta to negotiate a definitive agreement; Other parties will be invited to join	Oct.'95 UNOCAL & Delta Oil Company signed an agreement with the Gov't of Turkmenistan to build a 1,271 km, \$3,000 MM pipeline from Turkmenistan (Dauletbad Field) to Pakistan (terminating at the Sul NG Field) via Afghanistan; Estimated capacity 2 Bcfd	NG	Infra	Pipe	1ST	1		2000.00	3000.00	Over the next year \$10 MM will be spent on resource certification, feasibility, pipeline routes and gas markets;	UNOCAL would have the right to buy up to 700 Bcm of NG from specific, certified and dedicated reserves at the Afghanistan border, transport it to Pakistan and market it; Turkmenistan will supply 25 Tcf of NG from developed fields & guarantee delivery	Neither Afghanistan nor Pakistan have signed agreements yet; Original Agreement between UNOCAL & Delta called for 60:40 split; Aug.'96 MOU called for UNOCAL & Delta to hold combined 85%
US Oil Capital Ltd.	USA	Daiwa Securities(Japan), Austrian Consortium		Azerbaijan	Armenia	Turkey	Baku-Mediterranean Pipeline Project		Letter of Intent	Jun-95	Proposal			OCL signed Letter of Intent & secured \$500 MM credit from Austrian Construction Consortium to build Baku-Ceyhan Pipeline via Armenia; Jan.'96 reported China Petroleum & Engineering to provide \$1.5 Bn; Conditional on Azerbaijan-Armenia peace	O	Infra	Pipe	1ST	1		2500.00	3000.00	Austrian Construction Consortium is to provide \$500 MM in credits		
US-CIS Ventures Inc.	USA	N/A	Turkmenistan Transcontinental Pipeline Ltd.	Turkmenistan	Iran Turkey	Europe	Turkmenistan Transcontinental Pipeline		Service Contract		On-hold	N/A	N/A	ITP chose US-CIS Ventures to carry-out a feasibility report to export Turkmen NG to Europe via Iran & Turkey; In Dec.'96 It was reported that the companies activities were on-hold due to US Policy	NG	Infra	Pipe	2ND	0		6000.00	8000.00	Turkmenistan, Iran and Turkey have agreed to put up 40% of the costs, the rest must be raised from int'l banks and sales of stakes in the venture.	Turkmenistan Transcontinental Pipeline Ltd. (ITPP) is a new company established to develop, own, and operate the gas pipeline.	
VTPS Price Overseas between Price Overseas Inc. & Vneshtorgpromodstrai	Russia / USA	N/A	Uznetgazstrai	Uzbekistan	N/A	N/A	Gazi-Nukus Gas Pipeline Tunnel Under the Amu-Darya	N/A	Service Contract	*1995	Finished	N/A	N/A	VTPS Price Overseas, a Russian American JV completed a \$3.8 MM project to build a 1041 metre, 1020 mm tunnel on the bed of the Amu-Darya River to carry the Gazi-	NG	Infra	Pipe	1ST	1		3.80	3.80			
Weber	Germany	DEE(Germany)		Kazakhstan				N/A		*1995	Reported	N/A	N/A	Construction Work on Internal Pipeline System	O&G	Infra	S&S	1ST	0						

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country (Start)	Transit Country	End Country	Name of Project/JV	Charter Capital (\$US MM)	Contract Form	Date Signed or JV Registered	Status	Farm-in	Farm-in Notes	Project Description	O & G NG	Sector	Type	Contract Level	Actual Infra	Project or Contract Duration (Yr)	Total Investment Low Estimate (\$US MM)	Total Investment High Estimate (\$US MM)	Financing Notes	Contract Notes #1	Contract Notes #2
Wilbros Engineering and Construction Ltd.	USA	Morgan Grenfell(USA)	Transneft	Russia	N/A	N/A	Primorsk Oil Export Terminal	N/A	Service Contract		Completed	N/A	N/A	Feasibility study on crude oil export route; Completed in Mar/Apr.'95 and proposed export terminal at Primorsk is viable	O	Infra	Term	2ND	0						
Wilbros/Saipem JV	USA / Italy	Oman Oil Co.(Oman)	Government of Kazakhstan, Government of Russia	Kazakhstan	N/A	Russia	Caspian Pipeline Consortium-CPC	N/A	Contract	Jul-95	JV awarded exclusive negotiating rights after submission of bids	N/A	N/A	Wilbros/Saipem JV was chosen to construct 1st phase of CPC pipeline; Construction of 250 km, 40", 15 MMtpy pipeline from Kropotkin to Novorossiysk was to begin in Jan.'96 and take 1 year; a 50 km line from Tikhoretsk to Kropotkin exists	O	Infra	Pipe	2ND	1	1	350.00	400.00	Major hurdle is for CPC to arrange timely financing for the project.		
															Total		47				\$86,377	\$98,594			

Appendix A.4 FOGI Database: Manufacturing

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country	Host Political Region	Host Location	Name of Project/JV	Charter Capital (\$US MM)	Contract Form	Date Signed or JV Registered	Status	Farm-in	Farm-in Notes	Project Description	O O&G NG	Sector	Type	Contract Level	Actual Plant	Total Investment Low Estimate (\$US MM)	Total Investment High Estimate (\$US MM)	Financing Notes	Contract Notes #1
ABB Inc.(30%)	Switzerland / Sweden	N/A	Komplex(70%)	Russia	St. Petersburg Oblast	St. Petersburg	Komplex	N/A	Acquisition					ABB has a 30% minority stake in Komplex, a firm manufacturing gas compressors.	NG	Man u	S&S	1ST	1				
ABB Inc.(80%)	Switzerland / Sweden	N/A	Nevsky Zavod(20%)	Russia	St. Petersburg Oblast	St. Petersburg	ABB Nevsky JV		Joint Venture	Nov-93	JV Formed			JV to manufacture ABB turbine, power plants and auxiliary designs in a St. Petersburg plant with Russian gas and steam turbine manufacturer Nevsky Zavod; ABB Nevsky has a 18% minority stake in	NG	Man u	S&S	1ST	1				
ABB Inc.(80%)	Switzerland / Sweden	N/A	?(20%)	Russia	Moscow Oblast	Moscow	ABB Uniturbo JV		Joint Venture	Sep-93	JV Formed	NO	N/A	JV to manufacture gas turbine components.	NG	Man u	S&S	1ST	1				
ABB Inc. — ABB Combustion Engineering Subedary	USA	N/A	Monolit	Ukraine					Joint Venture	Nov-95	Reporte d JV Formed	NO	N/A	In Nov. '95 reported that ABB and Monolit had formed a JV to make control and monitoring systems for power companies & industrial utilities in the Ukraine; Monolit makes missile	O&G	Man u	S&S	1ST	1				
Aker Rauma Offshore, a subsidiary of Aker Rauma	Norway	N/A	4 Russian Manufacturers	Russia	Astrakhan Oblast	Mouth of Volga River			Joint Venture	May-96	Reporte d Negotiating	NO	N/A	Aker Rauma Offshore is to establish a oil and gas equipment manufacturing base on the Russian coast of the Caspian Sea near the mouth of the Volga River; In negotiations with four Russian Manufacturers.	O&G	Man u	S&S	1ST	1				
American Petroleum Institute — API	USA	N/A	Russian Oilfield Equipment Manufacturers Center Consult	Russia				N/A	Partners	May-96	Reporte d Forme d	NO	N/A	In May 1996 it was reported that the API formed a partnership with ROEM Centre Consult(set-up in Dec. '95 with assistance from World Bank) to provide technical, commercial, marketing and other assistance to Russian oil field equipment	O&G	Man u	TA	1ST	0				
Brown & Root Ltd.	UK		Gazprom's Rosshelf	Russia	Arkhangels k Oblast	Severodvinsk			Service Contract			N/A	N/A	Feasibility study to convert the Sevmash submarine fabrication yard to manufacturing site for offshore oil and gas structures. Completed	O&G	Man u	FS	1ST	0				
Caterpillar Inc.	USA	National Oil Well(USA)	Uralmashzavod	Russia	Sverdlovsk Oblast	Yekaterinburg	UNOC Equipment & Supply JV		Joint Venture	Late 1993	Operati onal	N/A	N/A	Develop a new drilling rig and produce oil-drilling equipment with American Engines; in Oct. '94 UNOC & Mitsui jointly won a contract to supply gas drilling rigs to Gazprom; in Jan. '96 deep drilling rig delivered to Astrakhangazprom.	O&G	Man u	S&S	1ST	1			Foreign banks are apparently interested in financing the project; in '96 OPIC & USAID created the US Fund for Large Enterprises (FLER) which will provide \$13.5MM for the production of oil equipment by the	
Caterpillar Inc.	USA	N/A	ZIL	Russia	Smolensk Oblast	Smolensk	Diesel Systems JV		Joint Venture					Includes 2 JV's to produce Caterpillar 150 - 500 HP truck engines in Smolensk.	O&G	Man u	S&S	1ST	1	100.00	100.00	Discussions with IFC and OPIC for part financing.	
Caterpillar Inc.	USA	N/A		Russia	Volgograd Oblast	Volgograd			Joint Venture					Produce drilling installations.	O&G	Man u	S&S	1ST	1				

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country	Host Political Region	Host Location	Name of Project/JV	Charter Capital (\$US MM)	Contract Form	Date Signed or JV Registered	Status	Farm-in	Farm-in Notes	Project Description	O & G NG	Sector	Type	Contract Level	Actual Plant	Total Investment Low Estimate (\$US MM)	Total Investment High Estimate (\$US MM)	Financing Notes	Contract Notes #1
Dresser Industries Inc.	USA	N/A	Gazprom	Russia	St. Petersburg Oblast	St. Petersburg ?	Kivorsky Zavod Facility		Joint Venture	Mar-93	Agreement Signed; Never Started	NO	N/A	Dresser will supply technical assistance and critical components for the conversion of the former defense plant, Kivorsky Zavod Facility to manufacture 100 turbine compressor sets each year.	NG	Man u	S&S	1ST	1				
Dresser Industries Inc.	USA	N/A	Gazprom	Russia					Joint Venture	Apr-96	Reported	NO	N/A	In Apr. '96 it was reported that Dresser and Gazprom are to jointly manufacture natural gas pipeline equipment; This is their second attempt to form a partnership: Two partners met in July '96 to finalise the deal and agree on a plant	NG	Man u	S&S	1ST	1				
Energy Ventures Inc.	USA	N/A	Azneftemash	Azerbaijan		Baku	Baktexas JV — Surkhansky Machine Building Plant		Joint Venture					JV to manufacture sucker rod pumps, will be in production by the end of 1993, annual production capability should be 25,000.	O	Man u	S&S	1ST	1				
FMC	USA	N/A	Sibneftegazmas h	Russia	Tyumen Oblast	Tyumen			Joint Venture	Pre-summer '95	Operational			FMC formed a JV to produce well head	O&G	Man u	S&S	1ST	1				
FMC	USA	N/A	Obukhov	Russia	St. Petersburg Oblast	St. Petersburg			Joint Venture	Jul-95	Formation of JV reported			FMC has formed a JV with the Obukhov Plant in St. Petersburg to produce oil equipment; JV hopes to receive contracts worth \$8 MM in 1995.	O	Man u	S&S	1ST	1				
Freidrich Krupp AG	Germany	N/A	Gazprom	Russia				N/A	Framework Agreement †	Dec-95	Agreement Signed; Proposal	NO	N/A	Gazprom and Freidnick Krupp of Germany signed a framework agreement on co-operation to make gas pipes, insulation and also ship equipment; working group to form on 15 Jan. '96 with results to be presented in April or May.	NG	Man u	S&S	1ST	0				
General Electric	USA	N/A	Rybnsk Motors	Russia	Yaroslavl Oblast	Rybnsk			Agreement †					Set-up a centre to produce and service gas pumping units for Gazprom.	NG	Man u	S&S	1ST	1				
General Electric Power	USA	N/A	Aosf Kirovsky Zavod	Russia	St. Petersburg Oblast	St. Petersburg ?			MOU	Mar-95				MOU to setup a JV to assembly and manufacture heavy duty gas turbines for the Russian market. GE (70%), Kirovsky Zavod (30%). JV should go into effect in the 1st half of 1995.	NG	Man u	S&S	1ST	1				
Halliburton Energy Services	USA	N/A	GERS	Russia					Agreement †	Mar-94				To manufacture oil well cementing units, initially Halliburton will build units in US and then ship them for mounting on trucks in	O&G	Man u	S&S	1ST	1				
Handlers International Inc.	USA	N/A	Gazprom	Russia	Nizhegorod Oblast	Vyska			Joint Venture?	May-95	Reported			Handlers, an American Financial Company, and Gazprom will finance and build a plant at Vyska to produce gas pipelines with an anti-corrosive coating; will be in operation by May 1996; USExim will supply \$30 MM loan for 1st phase.	NG	Man u	S&S	1ST	1			Loan from USExim bank will be used to finance the \$30 MM first phase to install equipment and train personnel	
Heglundz Lidan	Sweden	N/A		Azerbaijan					Joint Venture					JV established with Azeri machine builders to manufacture universal hydraulic installations for workover operations.	O&G	Man u	S&S	1ST	1				

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country	Host Political Region	Host Location	Name of Project/JV	Charter Capital (SUS MM)	Contract Form	Date Signed or JV Registered	Status	Farm-in	Farm-in Notes	Project Description	O & G NG	Sector	Type	Contract Level	Actual Plant	Total Investment Low Estimate (SUS MM)	Total Investment High Estimate (SUS MM)	Financing Notes	Contract Notes #1
International Tool & Supply, US subsidiary of New London plc. (UK)	USA	N/A		Russia					Joint Venture			YES	In 1993 ITS was subsidiary of Energy Venture. In Jan. '94 ITS was acquired by Camac, then ITS was sold to New London plc. (UK)	Fabricate, assemble and manufacture steam generators and water treatment systems in a facility 70 km. south of St. Petersburg. Equipment will be used to recover high viscosity, heavy oil.	O	Man u	S&S	1ST	1				
KAT Oil GmbH	Germany	N/A	Inelaneft	Russia		Moscow	Camneft JV		Joint Venture	Before 1994	Operational	NO		JV offers legal consulting and oil field equipment services and helps set up JV's in oil field equipment manufacturing.	O&G	Man u	S&S	1ST	0				
Loral	USA	N/A	Gazprom, Energiya	Russia			Newsat JV		Joint Venture	Mar-96	Reported Agreed to form JV	NO	N/A	Loral, Gazprom and Energiya have agreed to form a JV to build and operate satellites. Gazprom needs new satellites to monitor NG production.	NG	Man u	S&S	1ST	1				
M-I Drilling Fluids Co.	USA	N/A		Kazakhstan									M-I Drilling Fluids is 64% owned by Smith Int'l Inc. and 36% owned by Halliburton. In Feb. '94 64% was sold by Dresser Industries to Smith Int'l to comply with Antitrust Div. of Dept. of Justice decision.	Will establish a barge grinding mill to supply drilling fluid products to oil and gas operators in Kazakhstan. Operations to begin in Mar. '94.	O&G	Man u	S&S	1ST	1			OPIC -\$2.7MM in Insurance	
MAI Consultants Ltd.	UK	N/A	N/A	FSU			Roges Project	N/A	Service Contract		Ongoing as of Spring '95	N/A	N/A	Roges Project is a 15-company sponsored study of CIS equipment and costs.	O&G	Man u	FS	1ST	0				
McDermott International Inc.	USA	N/A	Sakhalinmorneftegaz	Russia	Sakhalin Oblast				Joint Venture					To develop ice-resistant offshore drilling rigs to be built in the US.	O&G	Man u	S&S	1ST	0				
McDermott International Inc.	USA	N/A	Amur Shipbuilding Plant JSC	Russia	Khabarovsk Krai		McAmur Construction Services Company JV		Joint Venture					JV to provide fabrication services for marine construction projects in the offshore waters of the Soviet Far East.	O&G	Man u	S&S	1ST	1				
McDermott International Inc. (40%)	USA	N/A	SOCAR-Kaspiyeflot (60%)	Azerbaijan		Baku	McDock JV		Joint Venture	May-94	Operational	NO	N/A	McDock JV based at Kaspiyeflot's (Caspian Oil Fleet) shipyard will maintain, repair and upgrade vessels and drilling rigs. McDermott will initially invest \$27 MM to buy equipment for the JV and to repair 32 ships; to	O&G	Man u	S&S	1ST	1	27.00	27.00		
McDermott International Inc. (40%)	USA	N/A	SOCAR-Shelfprojectstroil (60%)	Azerbaijan		Baku	McShelf JV		Joint Venture	May-94	Operational	NO	N/A	McShelf JV based at Baku's deep-water platforms factory will perform turnkey engineering, procurement and marine construction, particularly for offshore platforms. McDermott will invest \$3 MM in the JV; to become operational by Jun. '94	O&G	Man u	S&S	1ST	1	3.00	3.00		
Ramco Energy plc. (50%)	Scotland	N/A	Ainas (50%)	Russia			Ramco Ainas Limited		Joint Venture	*1990	Operational	NO	N/A	In 1990 JV formed between Ramco & Ainas, the largest ESP manufacturing plant in the world; Aug. '95 reported that Amoco will buy Russian made ESP's for US ops; Oct. '95 JV won \$2.5 MM order to supply 175 pumps to Tomskneft (part of WB's 2nd Oil Rehab Loan)	O	Man u	S&S	1ST	1				

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country	Host Political Region	Host Location	Name of Project/JV	Charter Capital (\$US MM)	Contract Form	Date Signed or JV Registered	Status	Farm-in	Farm-in Notes	Project Description	O O&G NG	Sector	Type	Contract Level	Actual Plant	Total Investment Low Estimate (\$US MM)	Total Investment High Estimate (\$US MM)	Financing Notes	Contract Notes #1
Schlumberger Rombach (36%), a German subsidiary	France	N/A	Gazprom (10%), Uraltransgaz (55%)	Russia	Sverdlovsk Oblast	Yekaterinburg	Uromgaz JV		Joint Venture	Mar-96	Formed	NO	N/A	JV to build, install and market NG transport equipment with manufacturing to take place at 2 plants near	NG	Man u	S&S	1ST	1				
Schlumberger	France	N/A	Ukrigaz	Ukraine	Kiev Oblast	Kiev			Contract			N/A	N/A	Schlumberger is providing technology to produce gas meters for town use in Ukraine. The Kiev plant, Accord, has begun full scale production of the town meters; expected production of 150,000 by 1995. 2nd plant will begin	NG	Man u	S&S	1ST	1				
Schoeller Bleckmann Offshore Equipment (51%)	Austria	N/A	Sattarhan (49%)	Azerbaijan		Baku			Joint Venture	Jul-95	Signed			JV established with Sattarhan Engineering Plant in Baku to produce sucker rods for the oil and gas sector; Sattarhan produces 25% of all sucker rods in the FSU and the JV intends to produce 400,000 units annually some of which will	O&G	Man u	S&S	1ST	1				
Scott Industries	USA	Schoeller-Bleckmann (Austria)	Izhneftemash	Russia	Udmurtia	Izhevsk			Agreement					To provide technology and special equipment to produce sucker rod pumps in Izhevsk; Russian oil producers import 30-40K pumps per year; 1st production in Apr. '94; production goal for '94 is 10K and 60K in '97; Total	O	Man u	S&S	1ST	1	36.70	36.70		
Smith International Inc.	USA	N/A	Engineering Academy of Russia Volga Department	Russia				N/A	Contract	Jan-96	Reported	N/A	N/A	In Jan. '96 US TDA is providing a \$150,000 grant to Smith International and Engineering Academy to study the manufacturing and marketing of drill bits for the Russian Market.	O&G	Man u	FS	1ST	0	0.15	0.15	US TDA to supply grant of \$150,000	
Sovintk Corp.	USA	N/A	Tokobank	Russia				N/A	Contract	Jan-96	Reported	N/A	N/A	In Jan. '96 US TDA is providing a \$200,000 grant to Tokobank whereby Sovintk will study requirements for medium term leasing of O&G	O&G	Man u	FS	1ST	0	0.20	0.20	US TDA to supply grant of \$200,000	
Thyssen	Germany	N/A	Lenttransgaz	Russia	St. Petersburg Oblast	St. Petersburg	Izhora Pipeline Works	N/A	MOU/Protocol	Oct-95	Proposal Signed	N/A	N/A	Thyssen along with some other companies signed a letter of intent to build large diameter NG pipelines at the Izhora Works in St. Petersburg.	NG	Man u	S&S	1ST	1				
Turbo Power and Marine Systems, a division of Pratt & Whitney	USA	N/A	Perm Motors	Russia	Perm Oblast				Joint Venture		Should be signed by end of 1995			The JV will manufacture and supply replacement parts for Turbines being sold by Turbo Power to Gazprom.	NG	Man u	S&S	1ST	1				
ZZ-Unknown	France		Nefma Shareholding Organisation, others?	Russia			Rosflex JV		Joint Venture					Producing and repairing oil-industry equipment.	O&G	Man u	S&S	1ST	0				
ZZ-Unknown	Germany		Nefma Shareholding Organisation, others?	Russia			Kameronv olgomash JV		Joint Venture					Producing and repairing oil-industry equipment.	O&G	Man u	S&S	1ST	0				
Total																			31	\$167	\$167		

Appendix A.5 FOGI Database: Downstream

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country	Host Geological or Geographical Region	Host Political Region	Host Location	Name of Project/JV	Charter Capital (\$US MM)	Contract Form	Date Signed or JV Registered	Status	Form-in	Form-in Notes	Project Description	O & G N G	Sector	Type	Contract Level	Actual Project or Project Duration (Y)	Total Investment Low Estimate (\$US MM)	Total Investment High Estimate (\$US MM)	Financing Notes	Contract Notes #1
ABB Inc.	Switzerland / Sweden			Kazakhstan											Provision of hydro-cracking facilities for oil industry	O	Down	Ref	1ST	0				
ABB Inc.	Switzerland / Sweden	Mitsui & Co. Ltd. Nishio Iwai Corp.	Uzbekneftegas	Uzbekistan	Amu-Darya Province	Kashkadarya Oblast	Shurtan	Shurtan Petrochemical Complex	N/A	Turnkey Contract	Feb-96	Contract Awarded	NO	N/A	ABB leading a group of Japanese companies has won a \$250 MM contract to build the Shurtan NG Petrochemical Complex: 140,000 tpy ethylene, 125,000 tpy polyethylene, 17,000 tpy butene-1 copolymer plant; total project cost \$500 MM; same as another project?	NG	Down	Ref	1ST	1	250.00	500.00	The project will be funded from international financing facilities available from Uzbekistan and the repayment of loans will come from the proceeds of domestic and export sales made by the plant.	Initially ABB to provide \$250 MM, Mitsui and Nishio Iwai to provide \$200 MM and the rest from domestic sources. World Bank are carrying out FS for 120,000 tpy polyether plant
ABB Lumus Crest Inc., a US subsidiary of ABB	USA	N/A	Nizhnekamskneftekhim	Russia	Volga-Urals	Tatarstan	Nizhnekamsk	Nizhnekamsk Petrochemical Plant	N/A						Approved feasibility study for Refinery in Nizhnekamsk	O	Down	FSRef	1ST	0	1300.00	1300.00	\$300,000 for FS came from...	
ABB Lumus Crest Inc., a US subsidiary of ABB	USA	AGIP (Italy), Mitsui & Co. (Japan), Lurgi Oil Gas Hemi GmbH (Germany), Sireco (Spain)	LUKoil, Transneft, Attend, (Sidanco & Tatneft?)	Russia	North Caucasus Province	Krasnodar Krai	Krasnodar	Southern Oil Refinery	350	Joint Venture	Sep-95	Plans announced to form JV, Proposal	YES	Originally it was reported that the project was between LUKoil and ABB, all others announced their intention to join on 19 Sept. '95	Consortium to build 180,000 bopd refinery near Krasnodar. Refinery will be connected to the port of Novorossiysk via a 40 km pipeline; the two partners are seeking investors to finance the project worth	O	Down	Ref	1ST	1	1500.00	1500.00	Financing has not been finalized.	
ABB Lumus Crest Inc., a US subsidiary of ABB	USA	N/A	LUKoil-Permnefteorgantex	Russia	Volga-Urals	Perm Oblast	Perm	Permneft Refinery Upgrade							Perm Refinery Upgrade; including modernization of catalytic cracking unit; in Sept. '95 partners planned to negotiate additional loan repayments	O	Down	RefUp	1ST	1	96.00	96.00	Permnefteorgantex is expected to receive \$96MM loan from France's Paribas and Germany's Westdeutsche Landesbank; USDIM is providing \$86.7 MM in guarantees - deal signed in Nov. '95	
ABB Lumus Crest Inc., a US subsidiary of ABB	USA	A variety of Japanese companies are interested - Marubeni, Mitsubishi, Nishio Iwai and Sumitomo	Angara Oil Company, a division of Sidanco	Russia	Eastern Siberia	Irkutsk Oblast	Angarsk	Angarsk Petrochemical Complex				Proposal			ABB Lumus Inc. is to develop a master plan for the Angarsk Petrochemical Complex.	O	Down	FSRef Up	1ST	0	1100.00	1100.00		
ABB Lumus Crest Inc., a US subsidiary of ABB	USA	N/A	Volograd Oil Refinery	Russia	Volga-Urals	Volgograd Oblast	Volgograd	Volgograd Refinery Upgrade							Refinery Upgrade, one project is for the modernization of a primary oil refining facility, the other project to increase production of high-octane	O	Down	RefUp	1ST	1	50.00	55.00		
ABB Lumus Global Inc., a US subsidiary of ABB	USA	N/A	Moscow Oil Refinery	Russia	Moscow Syncline	Moscow Oblast	Moscow Oil Refinery	Moscow Oil Refinery	N/A	Service Contract	Dec-95	Contract Reported	N/A	N/A	In Dec. '95 it was reported that ABB Lumus Inc. is to develop a master plan for the Moscow Refinery Upgrade; 60% of costs are to be financed by the US Trade & Development Agency (\$150,000); the Moscow Refinery will supply	O	Down	FSRef Up	1ST	0	0.25	0.25	US Trade and Development Agency (TDA) announced in Jan. '96 it would supply \$150,000 grant for FS which corresponds to 60% of the costs	
AGIP SpA	Italy	Acro Globus (USA)	Omsk, Archinsk, Novokulbyshevsk, Saratov and Khabarovsk Oil Refineries, Salavatnefteorgantex, Yaroslavlnefteorgantex, Mashinimport, and Grozny Research Institute	Russia	Moscow Syncline	Moscow Oblast	Moscow	REFIN International Consortium		Joint Venture	Dec-91	Formed			REFIN International Consortium was formed to modernize the Russian refining and petrochemicals industries	O	Down	RefUp	1ST	0				
AGIP SpA	Italy	N/A	Rosneft	Russia	Moscow Syncline	Moscow Oblast	Moscow			Joint Venture?	*1991	Operational	NO	N/A	AGIP setup its first Moscow gasoline retail station in Moscow in 1991 with Rosneft; the latter supplies the product from its	O	Down	Mkt	1ST	1				
Alparana	Liechtenstein	Invol (Liechtenstein)	Tuapse Oil Refinery, Sovinkam JSC, Interservice	Russia	North Caucasus Province	Krasnodar Krai	Tuapse	Tuapseken oil JV		Joint Venture		Operational			"Oil refining and ecology" JV;	O	Down	RefClean	1ST	1				

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Amoco Eurasia Petroleum, subsidiary of Amoco Corp.(50%)	USA	N/A	Ryazan Oil Refinery(50%)	Russia	Moscow Syncline	Ryazan Oblast	Ryazan	Ryazan Oil Refinery Upgrade		Joint Venture	*1993?	Operational; Suspended	NO	N/A	Amoco formed JV with Ryazan Oil Refinery to distribute & market refined products; includes a \$37 MM catalytic cracker; on 19 Sep. '95 gas station opened with \$ 2MM from each partner; in Feb. '96 Amoco suspended indefinitely RefUp due to	O	Down	RefUp	1ST	1		850.00	850.00		
Arctic Slope Regional Corp.	USA			Russia	Arctic Region										ASRC will serve as a prime contractor to build a small refinery in Russia's north west.	O	Down	Ref	1ST	1					
Avanti	USA	Equity Oil Co. (USA)		Russia	Eastern Siberia	Sakha Republic (Yakutia)	Krasnoyarsk								Contracted to supply engineering services to Equity Oil's JV in Krasnoyarsk with hopes to provide a refinery, has buyers but needs to	O	Down	S&S	2ND	0					
Aztec Gas & Oil Co.(50%)	USA	Kyrgoil Corp.(Canada)	Kyrgyzneft(50%)	Kyrgyzstan	Ferghana Basin	Jalal-Abad Oblast	Jalal-Abad	Aztec-Talas JV — Jalalabad Refinery		Joint Venture	*1992	Operational	YES	In Oct.'95 Kyrgoil of Canada acquired all the shares of Hydrocarbons Ltd. Cyprus (France) which had an agreement with Aztec-Talas JV to co-operate	Build a 5,000-10,000 bopd oil refinery in Jalal-Abad.	O	Down	Ref	1ST	1		8.00	8.00	Kyrgoil is to fund the 1st \$23 MM of capital investments for the projects, rx 70% of profits until payback, 50% afterward, subject to a 10% working interest being negotiated with Aztec-Talas	
Babcock-Wilcox, a subsidiary of McDermott Corp.	USA	N/A		Russia	Russian Far East	Sakhalin Oblast	Yuzhno-Sakhalinsk	Yuzhno-Sakhalinsk Thermal Plant Upgrade	N/A	Service Contract		Operational; renovations began	N/A	N/A	Renovations on a thermal plant by Babcock-Wilcox began in Mar.'94, USAID has set aside \$500 MM for the project.	O & G	Down	Power	1ST	1		500.00	500.00	USAID has 'set-aside' \$500 MM for the project	
BASF AG	Germany	Linde(Germany), Salzgrittergruppe(Germany)	Gazprom	Russia	Western Siberia	Yamat-Nenets Autonomous Okrug	Novyy Urengoy	Novyy Urengoy LDPE Plant	N/A	Turnkey Contract	*1994	Underway	NO	Originally Brown & Root, Mitsui-Toyo-Lumus and Linde were all approached for the engineering work.	Contract to build a NG-based 300,000 tpy polyethylene and a 340,000 tpy ethylene complex for domestic market; Construction began in '94, est. completion '98; Linde & Salzgritter will carry out construction, BASF supplies	NG	Down	Ref	1ST	1		700.00	800.00	Dresdner Bank led a consortium of German Banks which provided DM 936 MM in 1994	
Bechtel Petroleum, Chemical & Industrial Co.	USA	Encon System Ltd.(Ireland); UOP(US), Nishimen(Japan), Chiyoda(Japan)	Achinsk Oil Refinery & REFIN	Russia	Eastern Siberia	Krasnoyarsk Krai	Achinsk	Achinsk Refinery Upgrade		Agreement	Apr-94	Reported	NO	N/A	5 foreign firms will provide technical assistance and engineering services for the Achinsk refinery upgrade; to support project RF Gov't will allow export of 700,000 tpy of products that should provide revenues of \$50 MM per year; exports to go	O	Down	RefUp	1ST	1					
Belarusneft PA	Belarus	N/A	Noyabrskneftegas	Russia	Western Siberia	Tyumen Oblast	Noyabrsk	Rosbelneft JV		Joint Venture	*1994				One of 3 JV being formed by Belarus in 1994	O	Down	Ref	1ST	0					
Birimis Muhandisler Burosu A.S.-BMB Part of the United BMB Group Inc.	Turkey / USA	Siemens(Germany)	Aktubinskneft, Tupar	Kazakhstan	Pre-Caspian Basin	Aktubinsk Oblast	Aktubinsk	Aktubinsk Combined Cycle NG Plant	N/A	Turnkey Contract	Jul-92	Basic Agreement executed			Build the country's first 954 MW combined cycle gas fired power station at Aktubinsk in return for rights to develop five oil fields; contract cost \$650 MM; construction to be completed by 1998; Siemens to get \$300 MM	NG	Down	Power	1ST	1	N/A	650.00	650.00	Complex Financing Arrangement: Gov't and Local Banks will provide credit guarantees which should unlock Western financing; financing cannot be put together until a way is found of generating a steady	Contractual set-up stipulated sufficient revenue to allow BMB a payback of 4 years by the set-up of the cost-oil split and exports
Bitor Europe, wholly owned subsidiary of PDVSA	Venezuela	N/A		Lithuania	Baltic's	N/A	Bekrend	Orimulsion Import	N/A	Supply Contract	Jul-95	Negotiations began in 1994; Preliminary Agreement signed	N/A	N/A	Lithuania to buy Venezuelan orimulsion boiler fuel with a 15 yr contract for the Elektrėnai heat & power plant near Vilnius; Will replace 1/3 of Lithuania's imports from Russia; 1st delivery to begin in Aug.'95; contract price \$34/tonne; Total - \$561 MM	O	Down	Supply	1ST	0	15	N/A	N/A	300,000 tpy for the 1st 3 years at \$23/tonne subject to a later increase of 500,000 tonnes a year for \$90 per ton during 1998-2012; but due to budgetary financing problems preliminary agreement to buy 25,000 tpy as a trial	

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British Petroleum Co. plc.(52%)	UK	N/A	Baltic Shipping Company(16%), Neftorgintex(16%), Neftedativnoy Rayon(16%)	Russia	Baltic's	St. Petersburg Oblast	St. Petersburg	Baltic Petroleum JV		Joint Venture	Dec-92	Operational	NO	N/A	JV to build a factory in St. Petersburg to produce 9-12 types of oil products; annual capacity of high quality lubricants & marine oils will be 10-15,000 tpy; work began Nov.'95; 1st phase to begin May'96	O	Down	Ref	1ST	1		5.00	6.00	Baltic Shipping will supply premises and real estate; Neftorgintex will supply lubricants; BP will supply additives and equipment for blending and		
Brooklyn Union Gas Co.	USA	N/A	Rao Vladimirabigaz	Russia	Moscow Syncline	Vladimir Oblast	Vladimir								Partnership agreement to exchange information on technology, system design, operations and standards.	NG	Down	TA	1ST	0	1			Supported by USEA, USAID and AGA.		
Brown & Root Inc.	USA	N/A		Turkmenistan	West Turkmenistan Basin	Balkhan Oblast	Turkmenbashi (formerly Krasnovodsk)	Turkmenbashi Refinery Upgrade Feasibility	N/A	Service Contract		Finished	N/A	N/A	Conducting feasibility study for upgrade of 140,000 bopd Turkmenbashi(formerly Krasnovodsk) refinery.	O	Down	FSRef Up	1ST	0						
BSI Industries Inc.	USA	N/A	Nizhegorodneftorgintex	Russia	Volga-Urals	Nizhegorod Oblast	Nizhny Novgorod	Nizhny Novgorod Polyethylene Plant	N/A	Turnkey Contract	Sep-95	Reported Sep.'95	N/A	N/A	BSI Industries was awarded an engineering and procurement contract to build a polyethylene plant outside of Nizhny Novgorod; USEXIM has approved a \$150.5 MM loan to support \$160 MM sale of equipment and	O	Down	Ref	1ST	1		160.00	160.00	USEXIM has approved a \$150.5 MM loan to support \$160 MM in the sale of equipment and services for building the plant		
BSI Industries Inc.	USA	N/A	Poltavagazprom	Ukraine			Shebelinka	Shebelinka NG Refinery	N/A	Turnkey Contract		Underway	NO	N/A	BSI Industries won a \$30 MM contract to build a NG refinery at Shebelinka which will produce gasoline and propane-butane; to be completed	NG	Down	Ref	1ST	1		30.00	30.00			
Cepsa SA	Spain		Rosneft	Russia	Volga-Urals	Saratov Oblast	Saratov	Saratov Refinery Upgrade		Agreement			NO	N/A	A 4yr \$240 MM upgrade project for the Saratov Refinery, modernization and expansion. 1st phase includes a hydro-cracking plant, and further phases will include hydrogen, sulfur, and alkylation plants; refining ratio to increase	O	Down	RefUp	1ST	1	4	200.00	240.00	\$240 MM financing package to come from USEXIM; Chemical Bank and the Spanish Export Credit Agency		
Chevron Corp.	USA	N/A	LUKoil	Russia					N/A	Offtake Contract					8 year agreement to purchase and export 70,000 bopd of Urals Blend from LUKoil to European Refineries	O	Down	Offtake	1ST	0	8	N/A	N/A	The agreement will allow a \$700 MM loan to LUKoil from Mitsuhi of Japan to be implemented. LUKoil will use proceeds to import equipment for rehabilitation and new drilling.		
Chevron Corp.	USA	ABB Lummus Crest Inc.(US)	Kirishnefteexport	Russia	Baltic's	St. Petersburg Oblast	Kirishi	Kirishi Refinery Upgrade	N/A	Service Contract	Jan-94	Licensing Agreement Signed, Underway	N/A	N/A	Chevron & ABB will provide tech. licensing & basic engineering design to carry out a 420,000 bopd refinery upgrade, includes 60,100 bopd hydro-cracking unit which will increase output of distillates by 20-30%; start up mid-'99; (See John Brown Entry)	O	Down	RefUp	1ST	1		500.00	500.00	Chevron will not take an equity stake but will be paid in \$US.		
Columbia Gas System Inc.	USA	N/A	Penzagazifikatsiya	Russia	Volga-Urals	Penza Oblast	Penza		N/A	Agreement					Establishing information & technology exchange partnerships between five distribution subsidiaries of Columbia gas and a Russian regional gas distribution company	NG	Down	TA	1ST	0						
CTIP (possibly KITP) SpA	Italy	N/A	Drogobych Oil Refinery	Ukraine	Lviv Depression	Lviv Oblast	Drogobych	Drogobych Refinery Upgrade	N/A	Service Contract	Apr-94	Signed	N/A	N/A	CTIP won an international tender to carry-out the Drogobych oil refinery upgrade; design, construction & supply of new equipment; 1st stage, 3 yrs. redesign & convert ref. to produce ecologically clean fuel; 2nd stage to increase	O	Down	RefUp	1ST	1	3	80.00	80.00	Morgan Grenfell (UK) will provide an \$80 MM credit for the 1st stage of the work; Banca, Banco Di Roma (Italy) and Ukrainbank(Ukraine) have agreed to supply the \$5 MM needed to begin the		
Dawa Europe Ltd.	Japan / UK	N/A		Kazakhstan	Kazakhstan	Mangystau Oblast									Sole advisor to build a 6 MMtpy refinery at Mangystau which will process heavy crude found in the Buzachi area.	O	Down	Ref	1ST	1		1600.00	1600.00			

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Deftino	Italy	Fochi(Italy)		Belarus					N/A	Contract			N/A	N/A	Contract to build a 3.3 MMtpy refinery; upgrading at the Nafan refinery will boost capacity by 1.34	O	Down	Ref	1ST	1		650.00	650.00		
EKO	Greece	N/A	Saknavtobi	Georgia						Joint Venture	Sep-95	Proposal	NO	N/A	The state-owned Greek oil refining company EKO signed an agreement to form the 1st Greek-Georgian JV with Saknavtobi to create a network of gas stations and	O	Down	Mkt	1ST	0					
EN and SON	Sweden	N/A		Russia	Volga-Urals	Bashkortostan	Ufa	Novo-Ufimsky Refinery Upgrade	N/A	Service Contract		Operational	N/A	N/A	EN and SON will finance an \$80 MM refinery reconstruction program, which will include the installation of a sulfuric acid alkylation unit to be provided by Foster Wheeler. (see Technip Entry	O	Down	RefUp	1ST	1	3	80.00	80.00	Work will be paid for through export of oil products	
EN and SON	Sweden	N/A	Permnefteorgintez	Russia	Volga-Urals	Perm Oblast	Perm	Permnefteorgintez Refinery Upgrade	N/A	Service Contract	Mar-93		N/A	N/A	EN and SON is involved in another \$900 MM project for construction at the Permnefteorgintez refinery	O	Down	RefUp	1ST	1		900.00	900.00		
Engineer India	India	N/A	Government of Kyrgyzstan	Kyrgyzstan						Joint Venture	Oct-95	Proposed to Form	NO	N/A	In Oct. '95 Engineer India proposed to form a JV in Kyrgyzstan to develop small oil refineries, crude oil terminal & LPG bottling plants	O	Down	Ref	1ST	0					
ENICO	Switzerland	N/A	Several Kazakh Authorities	Kazakhstan	Chu-Sarysu Basin	Dzhezkazgan Oblast			N/A	Turnkey Contract?			N/A	N/A	Contract signed to build a 500,000 tpy refinery in the Dzhezkazghan Province.	O	Down	Ref	1ST	1					
Enron Oil & Gas Inc.	USA	N/A	Gazprom	Russia					N/A	Framework Agreement					Identify new markets for Russian NG in European power sector	NG	Down	Mkt	1ST	0				Once development of a specific project begins, Enron will be responsible for raising project finance, Gazprom will negotiate delivery contracts for NG	
Energ Oil NL	Australia	N/A	Saknavtobi	Georgia			Samgori	Trans Georgian Petroleum Ltd. JV		Joint Venture	*1 Aug. '94 is the start of license date	Operational?	NO	N/A	JV holds a 25 year exclusive license to build mini-refineries and to receive and treat all Georgian sourced oil, gas, and condensate. 1st stage will be the construction of a mini-2000 bopd refinery	O	Down	Ref	1ST	1	25			50:50 profit share for non-Gov't part until capital recovery then 30:70	
Entes	Turkey	ABB Lumus Crest(US)(0%), Neste OY(Finland)(0%), plus 8 other companies?	Pumneftegas	Russia	Western Siberia	Tyumen Oblast	Tobolsk	Ityshpolimer				Proposal			AO Ityshpolimer to build a petrochemical complex with 250,000 tpy of propylene, 120,000 tpy of polypropylene & 75,000 tpy of styrene butadiene capacity; following Neste & ABB Lumus Crest withdrawal in Jan. '94 project scaled down from	O	Down	RefUP	1ST	1		700.00	1700.00	Entes plans to invest \$20 MM in the construction of a \$700 MM expansion of the petrochemicals complex in Tobolsk. In Feb. '94 the complex has pledged of \$190 MM from nine companies.	
Ferrostahl AG(7%)	Germany	N/A	Gazprom, Arkhangelsk Maritime Trading Port(67% combined)	Russia	Arctic Region	Arkhangelsk Oblast	Arkhangelsk	Metaprom JV		Joint Venture	May-94	Underway?	NO	N/A	JV will build and operate a 680,000 tpy methanol complex at Arkhangelsk; output will be exported to Canada; FS completed in Autumn of 1995; start up early 1997; Ferrostahl will supply \$50 MM of equipment & technology.	NG	Down	Ref	1ST	1		300.00	300.00		
Foster Wheeler Petroleum Development Ltd.	UK	EN and SON		Russia	Volga-Urals	Bashkortostan	Ufa	Novo-Ufimsky Refinery Upgrade	N/A	Supply Contract			N/A	N/A	Foster Wheeler International will supply the new sulfuric acid alkylation unit for the EN and SON financing of the Novo-	O	Down	RefUp	2ND	0	3	N/A	N/A		
Foxboro Co.	USA	N/A	Gazprom	Russia	Pre-Caspian Basin	Astrakhan Oblast	Astrakhan		N/A	Supply Contract					A \$3.9 MM contract to provide control and information system for gas, sulfur and condensate plant in Astrakhan.	O	Down	Ref	1ST	0		3.90	3.90		

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FTL a subsidiary of Jay-Lood	USA	N/A	Moscow Oil Refinery	Russia	Moscow Syncline	Moscow Oblast	Moscow	Moscow Oil Refinery Upgrade		Turnkey Contract	*1995	Ongoing	NO	N/A	FTL is carrying out a \$220 MM turnkey contract for the Moscow Oil Refinery; includes a 78,000 tpy polypropylene product complex; construction began in Nov.'95; will come on stream in 1999	O	Down	RefUp	1ST	1		220.00	220.00		
Gamma Endstry Nestery Imalat ve Montag AS	Turkey			Russia	Urals			Islet Refinery				Underway in Autumn of 1995			Gamma Endstry of Turkey has begun constructing the Islet Refinery in the Urals with a capacity of 500,000 tpy with a ratio of 90%	O	Down	Ref	1ST	1					
Gamma Endstry Nestery Imalat ve Montag AS	Turkey	Chiyoda(Japan), Nichimen(Japan)	N/A	Turkmenistan	West Turkmenistan Basin	Balkhan Oblast	Turkmenbashi (formerly Krasnovodsk)	Turkmenbashi Refinery Upgrade	N/A	Turnkey Contract	Feb-96	Signed	N/A	Originally proposed by Atrreit (Austria) and Penta (Turkey)	Gamma, Chiyoda and Nichimen signed in Feb.'96 an deal to build a \$125 MM hydro-refining and catalytic reforming facility at the Krasnovodsk oil refinery; capacity to be 1MMtpy of high-octane gasoline; 3 yrs for	O	Down	RefUP	1ST	1	3	125.00	125.00	Israeli based Merhav Management has secured \$500 MM in financing and guarantees from French, German, Japanese & Turkish ECAs	
Gaz de France	Gazprom	N/A	Gazprom	Russia				Ecogaz JV		Joint Venture	Dec-95	Signed Agreement to Form JV	NO	N/A	Gaz de France and Gazprom will form the Ecogaz JV to improve the efficiency of gas use in Russia & improve the	NG	Down	S&S	1ST	0					
Gazprom(16.25%)	Russia	Norsk Hydro(Norway); Statoil(Norway); Gaz de France; Ruhrgas(Germany)(only 3 companies bidding for a total of 24%)	Latvian Government	Latvia	Baltic's	N/A		Latvian Gas		Acquisition	Oct-95	Proposal	NO	N/A	Latvia's state-owned gas company, Latvian Gas, plans to sell stakes to foreign investors; sale to begin 1st qtr. '96; Gazprom announced in Dec. it would take 16.25%, while 3 other companies are to	NG	Down	Mkt	1ST	0					
Gazprom(30.64%)	Russia	Ruhrgas(Germany)(14.69%)	Estonian Government(39%)	Estonia	Baltic's	N/A		Eesti Gas		Acquisition	*1995	Operational	NO	N/A	Gazprom and Ruhrgas acquired stakes of 30.64% and 14.69% respectively in Eesti Gas privatization in 1995	NG	Down	Supply	1ST	0					
Gazprom(50%)	Russia	N/A	Moldova-Gaz(50%)	Moldova				Gaznabitrantz JV	104	Joint Venture	*1995	JV formed			JV to ensure stable Russian gas supplies to Moldova; JV also hopes to resolve the problem of Moldova's gas debts to Russia	NG	Down	Mkt	1ST	0					
Government of Iran	Iran	N/A	Government of Moldova	Moldova						Protocol/MOU	Oct-95	Proposal			In Oct.'95 Iran announced its intentions to build a refinery in Moldova; potential funding from World Bank and Germany's	O	Down	Ref	1ST	1					
Government of Russia, Tyumen Property Fund and Orenburgneft (combined 10%)	Russia	YUKOS,Transneft, Kond Petroleum and Russian MFE(combined 30%); Sino and Magma(combined 10%) (all Russia)	Government of Ukraine (20%); Ushchansk Refinery(30%)	Ukraine				Russian-Ukrainian Oil Co. - Runo- JV		Joint Venture	*1994	JV formed; Operational	NO	N/A	In '94 Runo, a 50:50 Russian/Ukrainian JV was formed; at end of '95 Runo acquired 40% interest in Kremenchug refinery; Runo is looking to acquire 30% interest of Ushchansk	O	Down	Ref	1ST	0					
Government of Tatarstan(50%)	Russia	N/A	Government of Ukraine(50%)	Ukraine	Dnepr-Donets Basin	Poltava Oblast	Kremenchug Refinery	Ukrainian JV		Joint Venture	Jul-95	In July '95 agreed to form a JV			JV to refine a minimum of 8 MMtpy of Tatar crude at the Kremenchug refinery in the Ukraine; proceeds to upgrade the refinery and develop deposits in Tatarstan; Ukrainian to be	O	Down	RefUp	1ST	1				Each partner will fund 50% of the costs	
Hilsh	Denmark	N/A	Kazkhgaz, Munashimderi	Kazakhstan	West Kazakhstan Oblast		Karachaganak Field	Kondensat JV		Joint Venture					JV to build a 400,000 tpy condensate refinery at the Karachaganak Field. Gov't approval in Sept.'93 but lack of financing has held up the completion. A C\$ 20 MM loan will be used to finish the project after the Kazakh Gov't guarantees	O	Down	Ref	1ST	1		17.00	17.00	\$20 MM Canadian loan will be used to finish the project if the Kazakh Government provides a guarantee.	
Howe Baker Development Co.	USA	N/A		Georgia			Gachiani Refinery	Gachiani Refinery		Joint Venture	Aug-96	Formation of JV Reported	NO	N/A	Howe Baker formed a JV with Georgia to build mini-refineries; The 1st will be in Gachiani with a capacity of 50,000 tpy (1,000 bopd)	O	Down	Ref	1ST	1					

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Hydrocarbon Engineering	France	Ronar Services Ltd.(UK), Nishimen Marubeni(Japan), Nishio Iwai(Japan), Itochu(Japan), JGC(Japan), Chiyoda(Japan), Ferretal(German)	Kazakhstanmigas	Kazakhstan	Pre-Caspian Basin	Atyrau Oblast	Atyrau	Atyrau Oil Refinery Upgrade	N/A	Turnkey Contract?	Apr-94	Contract Signed Apr.94; Additions made Feb.'95; Dec.'95 Agreement to form Consortium			Consortium to modernize & expand Atyrau refinery — only one to solely refine domestic crude; PS finished in Mar. 94; Utilization will increase from 54% to 85% and capacity will be 6 MMtpy; Construction est. to take 4 yrs & will begin before end of 1995;	O	Down	RefUp	1ST	1		650.00	650.00	Japanese Consortium (See Nishimen Entry) won \$600 MM out of the total \$1,250 MM Contract	
ICF Kaiser International Inc.	USA	N/A		Russia	Urals	Orenburg Oblast	Orsk		N/A	Service Contract					\$350,000 Contract to conduct a feasibility study to upgrade the Orsk petroleum refinery; the study focuses on the construction of a	O	Down	FSRef Up	1ST	0		0.35	0.35		
Imatran Voima	Finland	N/A	St. Petersburg District Council	Russia	Baltic's	St. Petersburg Oblast	St. Petersburg		N/A	Service Contract					Technical Agreement worth \$180 MM has been signed with the St. Petersburg district council to renovate and improve 16 district heating power plants in the area.	NG	Down	Power	1ST	1		180.00	180.00	Financing Arrangements remain to be finalized.	
Inchcape Testing Services-Caleb Brett	UK	N/A	Gazprom	Russia	Moscow Syndline	Moscow Oblast	Moscow	VNIIGAZ Petroleum Testing Laboratory	N/A	Service Contract	*1993	Tender Won; Facilities Completed	N/A	N/A	In 1993 Inchcape Testing Services-Caleb Brett won a Multi-million tender contract to set-up, equip and train personnel to operate a laboratory in Moscow to test hydrocarbons for international standards; facilities	O & G	Down	S&S	1ST	0					
Indian Oil Corp.	India	Engineers India Ltd.(India)		Kazakhstan					N/A	Service Contract			N/A	N/A	The two Indian firms have been contracted to modernize three refineries in Kazakhstan. EIL technicians are familiar with the Russian designed refineries for they have worked on similar ones in	O	Down	RefUp	1ST	0					
Industrieanlagen	Germany	N/A	Georgian International Oil Company — GIOC	Georgia	Black Sea	Ajara	Batumi	Batumi Oil Refinery	N/A	BOT	Mar-96	Proposal Reported	NO	N/A	Industrieanlagen has proposed to build a 100,000 bopd refinery at the Black Sea port of Batumi & Poti; in exchange for financing and building it the	O	Down	Ref	1ST	1	25	1500.00	1500.00		
Israli Martin GmbH	Germany	N/A	Los Limited Perm	Russia	Volga-Urals	Perm Oblast		Islla JV		Joint Venture	before 1994	Operational			"Oil refining and ecology" JV;	O	Up	RefClean	1ST	1					
ITB	Netherlands	N/A	Nevko, Lennetfeldhim PA	Russia	Baltic's	St. Petersburg Oblast	Togliatti and St. Petersburg								The three groups have developed technology to produce a Russian high-octane gas additive known as feterat; the production of feterat will be set up at two Russian plants in Togliatti and one in St. Petersburg which has	O	Down	Ref	1ST	0					
Itochu Corp.	Japan	Haldor Topsøe AS(Denmark)		Russia	Volga-Urals	Bashkortostan	Ishimbal		N/A	Supply Contract	*1988				Plans to resume construction of a refining catalysts plant at Ishimbal to meet national demand of 24,000 tpy; Project started 1972 and partly funded. 1988 contracts signed with Itochu & Haldor for equip. & tech. '92	O	Down	Ref	1ST	1		130.00	130.00		
JGC	Japan	N/A	Stavropolorgintez	Russia	North Caucasus Province	Stavropol Krai	Stavropol	Stavropol Refinery	N/A	Proposal		Proposal Terminated?	NO	N/A	In 1994 Stavropolorgintez was negotiating with JGC to build a 8 MMtpy refinery in Stavropol at a cost of \$1,410 MM; this project is in direct competition with LUKoil's Southern Oil Refinery Proposal, latter seems to have won	O	Down	Ref	1ST	1		1410.00	1410.00		

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JIX Oil & Gas plc.	UK	N/A		Russia	North Caucasus Province	Kalmykia Republic	Ulan-Khol	Ulan-Khol Refinery	N/A	Turnkey Contract	Jul-95	Tender Awarded	N/A	N/A	In July'95 JIX won a tender to build a \$35 MM,4,600 bopd refinery at Ulan-Khol in the Kalmykia Republic; output is for domestic market; JIX also intends to pursue upstream	O	Down	Ref	1ST	1		30.00	30.00		
John Brown Engineers & Contractors	UK	N/A	Azerigaz	Azerbaijan	Transcaucasus		Karadag	Karadagsk y Gas Processing Plant			*1995	Tender Announced; Tender Won	NO	N/A	John Brown won the World Bank's 1995 tender to conduct a \$650,000 FS for rebuilding of the Karadag NG Processing Plant	NG	Down	FSRef Up	1ST	0		0.65	0.65	World Bank is supplying \$650,000 for FS.	
John Brown Engineers & Contractors	UK	Sofresid Chimie Petrole(France)	Kazakhstan Ministry of Oil & Gas	Kazakhstan	Syn-Darya Basin	Chimkent Oblast	Chimkent	Chimkent Oil Refinery Upgrade	N/A	Service Contract			NO	N/A	John Brown will carry out a refinery upgrade at Chimkent; includes hydro-treatment and catalytic cracking facilities, plus expanding capacity to	O	Down	RefUP	1ST	1					
John Brown Engineers & Contractors	UK	Foster Wheeler Ltd.(USA); ABB Lums Global (USA)	KomITEK	Russia	Timan-Pechora	Komi Republic	Ukhta	Ukhta Oil Refinery Upgrade	N/A	Tender	Feb-95	Tender Opened; winner to be announced in early 1996			In Feb. '95 an International Tender was called for the upgrading of the Ukhtinsk Oil Refinery; total cost is \$780 MM, of which \$344 MM for catalytic cracking facilities of 1.5 MMtpy and primary refining of 6 MMtpy; 3 companies have submitted bids	O	Down	RefUp	1ST	1		780.00	780.00		
John Brown Engineers & Contractors	UK	N/A	Kirshneftechim export	Russia	Baltic's	St. Petersburg Oblast	Kirishi	Kirishi Oil Refinery Upgrade	N/A	Service Contract					Contracted to help choose licensors, prepare contract and negotiate with companies interest in building a hydro-cracking complex at the Kirshnefteorgsintez Refinery	O	Down	RefUP	1ST	0		N/A	N/A		
John Brown Engineers & Contractors	UK	Amoco Eurasia Oil Company	Ryazan Oil Refinery	Russia	Moscow Syncline	Ryazan Oblast	Ryazan	Ryazan Oil Refinery Upgrade	N/A	Service Contract	*1993?	Operational			JV awarded John Brown a contract to upgrade and modernize the 1968 catalytic cracking unit at the Ryazan oil Refinery 200 km southeast of Moscow; capacity will increase from 16,000 to 40,000 bopd; Work will be finished by end of '95 (See Amoco Entry)	O	Down	RefUp	2ND	0		N/A	N/A		
KBC Process Technology Ltd.	UK	N/A		Uzbekistan	Ferghana Basin	Ferghana Oblast	Ferghana	Ferghana Refinery Upgrade	N/A	Service Contract		Completed	NO	N/A	EBRD awarded a feasibility study to KBC for the potential rehabilitation of the Ferghana Refinery; Study to determine the best rehabilitation program and viability of a proposed desulfurization project; See	O	Down	FSRef Up	2ND	0				Study fully funded by the EBRD.	
Komineft(90%)	Russia	N/A	Hromos-Polidsperia(Croatia)(10%)	Croatia				Hromos-Polidsperia PetroChemical Plant		Acquisition	*1993	Operational	Yes	In 1993 Komineft purchased 90% of the shares of Hromos-Polidsperia Petrochemical Plant	Komineft will begin shipments of crude to the Hromos-Polidsperia petrochemical Plant in Croatia which it now owns 90% of the shares in 1995	O	Down	Ref	1ST	0					
Kvaerner Kenny Ltd.	UK	N/A		Russia	North Caucasus Province	Dagestan	Makhachkala	Makhachkala Refinery	N/A	Turnkey Contract	Apr-96	Completed	NO	N/A	In Apr.'96 Kvaerner Kenny Ltd. (UK) rebuilt the 4,000 bopd silver Eagle refinery from Wyoming in Makhachkala in Dagestan; as Dagestan's 1st refinery it will produce gasoline, diesel, naphtha and heavy	O	Down	Ref	1ST	1					
LUKoil	Russia	YUKOS(combined 74%)	PO Naftan (formerly Navapolatsk Refinery); Belnefteprodukt (combined 26%)	Belarus		Vityebsk Oblast	Navapolatsk	PO Nafta (Navapolatsk Refinery)		Joint Venture	Dec-95	Agreement Signed	NO	N/A	The 1st JV, of which YUKOS and LUKoil hold 74% of the shares; the management of PO Naftan will be transferred for a period of 7 years; YUKOS and LUKoil will supply a combined 7 MMtpy of oil to the refinery	O	Down	Ref	1ST	1					

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LUKoil	Russia	YUKOS(combined 49%)	PO Naftan (formerly Navapolatsk Refinery); Belnefteprodukt (combined 51%)	Belarus		Vitebsk Oblast	Navapolatsk	PO Nafta (Navapolatsk Refinery)		Joint Venture	Dec-95	Agreement Signed	NO	N/A	The 2nd JV will build a \$400 MM refinery complex for deep refining; on the basis of PO Naftan, the Navapolatsk Refinery has a potential capacity of 30 MMtpy although at present it is only 11-13 MMtpy; Russian companies agree to supply 7 MMtpy of crude	O	Down	RefUP	1ST	1		400.00	400.00		
LUKoil	Russia	N/A		Estonia	Baltic's	N/A	Tallin	Muuga Oil Terminal	N/A	Proposal	Oct-95	Oct-95 reported	NO	N/A	In Sept./Oct-95 LUKoil lodged planning application to build \$50 MM oil terminal in Tallinn harbor Muuga oil district; Awaiting EIA; Estimated capacity 1.5 MMtpy of	O	Down	Term	1ST	1					
LUKoil	Russia	SNC-Lavalin(Canada)	Atyrau Refinery	Kazakhstan	Pre-Caspian Basin	Atyrau Oblast	Atyrau Refinery	Atyrau Refinery	N/A	Contract	*1995	Agreement Signed	Likely	SNC-Lavalin of Canada is reported to be the likely Western Partner	LUKoil signed an agreement with the Atyrau Refinery in Kazakhstan for the production & sale of motor oil which is not produced domestically; eventually the two intend to produce 50,000 tpy (i.e. 1/3 of Kazakh consumption); construction	O	Down	Ref	1ST	1					
LUKoil	Russia	N/A	Government of Moldova	Moldova				LUKoil-Moldova JV		Joint Venture	Dec-95	Framework Agreement Signed	NO	N/A	LUKoil signed a framework agreement with the Government of Moldova to set-up a JV for operations in the republic; immediate concern is to increase supply of petroleum	O	Down	Mkt	1ST	0					
LUKoil(100%)	Azerbaijan	N/A	N/A	Azerbaijan	Transcaucasus		Baku			Wholly owned foreign investment	*1995	Operational	NO	N/A	In the autumn of 1995, LUKoil opened its first proprietary filling stations in Azerbaijan; plans to open another in 1996 with profits being reinvested in the	O	Down	Mkt	1ST	1					
Lurgi AG	Germany	BHF Bank(Germany)	Nizhnekamskneftekhim Stock Company	Russia	Volga-Urals	Tatarstan	Nizhnekamsk	Nizhnekamsk Refinery Upgrade	N/A	Turnkey Contract	Jan-94	Jan/Feb-94 Contract Signed	NO	N/A	BHF and Lurgi signed an agreement with the Gov't of Tatarstan to carry out a DM 290 MM modernization of the oil refinery at the Nizhnekamsk. 2nd Phase will increase capacity to 12 MMtpy with efficiency of 75-80%.	O	Down	RefUp	1ST	1		168.00	261.00	The funds extended by BHF Bank with Kazan guarantees will pay for oil refining equipment Lurgi will deliver during 1st phase. Credits will be repaid with petroleum products in 1996-98.	
Lurgi Anlagenbau Chemnitz GmbH	Germany		Salavatnefteorgsintez	Russia	Volga-Urals	Bashkortostan	Salavat	Salavat Refinery Upgrade	N/A	Turnkey Contract		Signed; Ongoing	NO	N/A	Lurgi won a contract to build a 70,000 tpy ethylbenzene & 200,000 tpy styrene plant to be operation by late '97 early '98; Mar-96 Russian company rx 1st DM 19 MM of a DM 40MM loan from the state of Saxony; part of 1994 DM	O	Down	Ref	1ST	1	3	27.00	27.00		
M.W. Kellogg, a subsidiary of Dresser Industries	USA	N/A	Angara Oil Company, a division of Sidanco	Russia	Eastern Siberia	Irkutsk Oblast	Angarsk	Angarsk Petrochemical Complex	N/A	Turnkey Contract	Dec-95	Contract Awarded	N/A	N/A	In Dec-95 M.W. Kellogg awarded a \$70 MM turnkey contract to modernize the 34,000 bopd FCC unit at the Angarsk Refinery	O	Down	Refup	1ST	1		70.00	70.00		
M.W. Kellogg, a subsidiary of Dresser Industries	USA	N/A	Metafrax	Russia			Gubakha Plant		N/A	Service Contract	Feb-95				M.W. Kellogg will revamp two methanol reformer furnaces at Metafrax's Gubakha plant -- increase capacity, cut energy use, and improve efficiency and reliability. 1st will be completed in summer of 1995 the second in summer	O	Down	Refup	1ST	1		14.00	14.00		
Manneberg KTI GmbH	Germany	N/A	Orsknefteorgsintez	Russia	Volga-Urals	Orenburg Oblast	Orenburg	Orenburg Refinery Upgrade	N/A	Service Contract	Aug-95	Operational	N/A	N/A	Manneberg awarded an engineering, procurement & construction supervision contract worth \$100 MM for a 20,000 bopd naphtha hydro-treater & CCR reformer at its 150,000 bopd refinery in Orenburg; work began Aug-95; completion expected '98	O	Down	RefUp	1ST	1	3	100.00	100.00	Orsknefteorgsintez expects to acquire DM 70 MM credit from the German bank Creditanstalt für Wiederaufbau	

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Mannebaum KTI GMBH	Germany	N/A	Norsl, a subsidiary of Norsl Oil	Russia					N/A	Supply Contract		Operational	N/A	N/A	In Nov. '95 Norsl begun assembling Pyrolysis furnaces produced by Mannebaum of a \$90 MM ethylene project; Norsl has invested \$30MM but is seeking investor for additional \$60 MM; ABB carried out original FS?	O	Down	RefUp	1ST	1		90.00	90.00		
Mannebaum KTI GMBH	Germany	N/A	N/A	Turkmenistan	West Turkmenistan Basin	Balkan Oblast	Turkmenbashi (formerly Krasnovodsk)	Turkmenbashi Refinery Upgrade	N/A	Turnkey Contract	Feb-96	Signed	N/A	N/A	Mannebaum signed an agreement with Turkmen Gov't in Feb. '96 to build a \$165 MM lubricant and paraffin plant at Turkmenbashi; Capacity 0.8 MMtpy; 3 yrs completion (1999); Part of Refinery Upgrade Programme being carried out by Chiyoda, Gamma & Nichimen	O	Down	RefUP	1ST	1	3	165.00	165.00	Israeli based Merhav Management has secured \$500 MM in financing and guarantees from French, German, Japanese & Turkish ECAs	
Marubeni Corp.	Japan	N/A	Siberian-Far Eastern Oil Co.	Russia						Joint Venture					JV to market SIDANCO's products in Asia and Pacific Regions. Marubeni will also represent SIDANCO's interest in the purchase and servicing of Japanese equipment at its	O	Down	Mkt	1ST	0					
Marubeni Corp.	Japan	Chiyoda Corp.(Japan); Ralph M. Parsons Co. Ltd.(UK);	Uzbekneftegas	Uzbekistan	Amu-Darya Province	Bukhara Oblast	Bukhara	Bukhara Oil Refinery	N/A	Service Contract		FS Completed			Two companies will build a new refinery with a capacity of 50,000 bopd at a site 50 km southeast of Bukhara. Japanese firms completed FS in Aug. '94; in Jan. '96 Ralph Parsons Co. awarded project management contract	O	Down	FSRef	1ST	0		N/A	N/A	JEXIM is expected to finance much of the project.	
Megionneftegaz	Russia	Megionneftegazgeologiya(Russia); Yaroslavlnefteorgintez(Russia); Yaroslavl's Mendeleyev Refinery(Russia); ...	Mozyr Refinery	Belarus	Dnepr-Donets Basin	Mozyr Oblast	Mozyr	Slavneft JV — Mozyr Oil Refinery		Joint Venture		Operational	NO	N/A	In Dec. '96 Belarussian Gov't decided to allow Slavneft to increase its stake in Mozyr Oil Refinery to 50%; Apr. '96 announced Slavneft to increase stake to 42.5% from 32.5%; Slavneft extracted 12.6 MMt of oil in 1995 and	O	Down	Ref	1ST	1					
Mineraloi-Rohstoff-Handel GmbH	Germany	N/A	Nizhnekamsk Petrochemical Plant	Russia	Volga-Urals	Tatarstan	Nizhnekamsk	Petrokam JV		Joint Venture		Operational			An "oil refining and ecology" JV	O	Down	RefClean	1ST	1					
Mitsubishi Corp.	Japan	Technologie Progetti Lavori Spa — TPL (Italy)	Government of Turkmenistan	Turkmenistan	Amu-Darya Province	Lebap Oblast	Seydi	Seydi Refinery Complex	N/A	Turnkey Contract	*1994	Deal reported in trouble in Jan. '95; Suspend?	YES	It seems Technip, a subsidiary of Bf. and Softegas's proposal was preferred (See Technip Entry)	Mitsubishi & Technology Progetti Lavori Spa plan to build a \$700 MM polyethylene facility at the Seydi gas/chemical complex; capacity will be 200,000 tpy; Contract was to be signed in '94; Terminated?: See Technip	NG	Down	RefUp	1ST	1		700.00	700.00	Problems encountered problems in financing; JEXIM proposed to lend \$320 MM for the project.	
Mitsui & Co. Ltd.	Japan	Mitsubishi Corp.(Japan); Toyo Engineering Corp.(Japan)		Kazakhstan	South Manyshlak Basin	Mangystau Oblast	Aktau	Aktau Refinery	N/A	Turnkey Contract?	Apr-94		NO	N/A	In Apr. '94 the three companies were awarded a contract to build a 60,000 bopd refinery near Aktau to refine crude from Tengiz. It will take five years to complete	O	Down	Ref	1ST	1	5	1500.00	1500.00	JEXIM is expected to assist with the financing	
Mitsui & Co. Ltd.	Japan	Mitsubishi Corp.(Japan); Toyo Engineering Corp.(Japan)		Russia	Volga-Urals	Tatarstan	Almetyevsk		N/A	Turnkey Contract?		No award made to date		Tatarstan groups are forming a JSC to revive the plans	To build a 120,000 bopd refinery near Almetyevsk, the origin of the Druzhba crude oil line.	O	Down	Ref	1ST	1					
Mitsui & Co. Ltd.	Japan	Toyo Engineering Corp.(Japan); Thyssen Rhein Stahl Technik GMBH(Germany)	Yaroslavlnefteorgintez	Russia	Moscow Syncline	Yaroslavl Oblast	Yaroslavl	Yaroslavl Refinery Upgrade — Catalytic Reforming Unit	N/A	Contract					Project to build a catalytic reforming facility at one of European Russians largest oil refineries. Yaroslavlnefteorgintez facility will produce 1 MMtpy of high-octane gasoline annually; initial cost is \$237.5 MM	O	Down	RefUp	1ST	1		237.50	237.50	In Aug. '96 Yaroslavlnefteorgintez says it will cost \$237.5 MM of which it will provide \$37.5 MM, therefore needs loan of \$200 MM; Mitsui will invest \$240 MM? Nov. 1994 JEXIM approved a loan of \$200 MM; Oct. '96 ECA JEXIM finalised?	

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Mitsui & Co. Ltd.	Japan	N/A	Uznefteprerabotka (Formerly Ferghana Oil Refinery)	Uzbekistan	Ferghana Basin	Ferghana Oblast	Ferghana	Ferghana Refinery Upgrade	N/A	Contract	Dec-95	Reported	N/A	N/A	Mitsui is to carry out an upgrade of the Ferghana Oil Refinery; main aim to install hydro-sulfuration facility to produce 1.7-1.8 MMtpy of products. Until JEXIM financing confirmed contract will not be signed.	O	Down	RefUp	1ST	1	100.00	150.00	JEXIM will likely supply \$100-\$150 MM in financing	
Mobil Corp.	USA	N/A	Balkar Trading Company	Russia	Moscow Syncline	Moscow Oblast	Moscow			Joint Venture	Aug-95	Reported	N/A	N/A	Balkar & Mobil announced the formation of a JV to build 30-50 petrol stations around Moscow; Mobil expects to invest around	O	Down	Mkt	1ST	1	30.00	30.00		
Mozyr Oil Refinery	Belarus	N/A	Megonnetegaz	Russia	Western Siberia			? JSC		Joint Venture	*1994				One of 3 JV being formed by Belarus in 1994	O	Down	Ref	1ST	0				
Multinational Corp.	USA	N/A	Feriz, Sibir, Delta, Pomas	Russia	Western Siberia	Tomsk Oblast		Tomsk Petroleum and Gas Co.							The group won a tender to build a 120,000 bopd refinery in the Tomsk region. Refinery will produce gasoline, gas oil, jet	O	Down	Ref	1ST	1	1400.00	1400.00		
National Fuel Gas Supply	USA	N/A	Sibirgaservis	Russia	Western Siberia	Novosibirsk Oblast	Novosibirsk			Partnership					Together will develop a study for expanding the Sibirgaservis service territory using plastic pipe.	NG	Down	TA	1ST	0				
Neste OY	Finland	N/A	Mazheikiai Refinery, Lietuvos Kuras	Lithuania	Baltic's	N/A		Litofinn Service JV		Joint Venture		Operational			Litofinn Service, a JV company controlled by Neste is the largest oil marketing firm in Lithuania; 12 service stations; 1994 expansion plans put on hold due to unfavorable	O	Down	Mkt	1ST	0				
Neste OY	Finland	Mobil(USA); LUKoil(Russia)	Mazheikiai Refinery	Lithuania	Baltic's	N/A		Mazheikiai Refinery Privatization		Acquisition	Mar-96	Reported	NO	N/A	Government is to privatize the Mazheikiai Refinery, but will retain a 51% controlling interest; LUKoil, Neste OY and Mobil are all competing for a 39% stake, while 10% has been sold to worker's collectives	O	Down	Ref	1ST	0				
Neste OY	Finland	N/A	Neftekombi, a subsidiary of Surgutneftegaz	Russia	Baltic's	St. Petersburg Oblast	St. Petersburg	Petroservice JV		Joint Venture		Operational			JV plans to increase its network of gas stations in St. Petersburg area from 8 to 13 in 1995; 50% of gasoline sold in St. Petersburg comes from Finland; Neste hold 5% market share & hopes to increase to 20% by mid-	O	Down	Mkt	1ST	1			Neste is only free to set prices on the 50% of product shipped from Finland	
Neste OY	Finland	N/A	Gazprom	Russia					N/A	Supply Contract	Mar-94				Gazprom will supply 7.7 Bcm of NG to Finland by the year 2000; the new price accord with Neste will give Gazprom an extra	NG	Down	Offtake	1ST	0				
Neste OY	Finland	YIT(Finland)	N/A	Russia, Estonia, Latvia, Lithuania	Baltic's	N/A			N/A	Service Contract	Jul-95	Signed	N/A	N/A	Neste signed construction contracts for filling stations in Russia, Estonia, Latvia and Lithuania with YIT; Neste is planning some 200 filling stations by the year 2000; new stations will be initially concentrated around St. Petersburg	O	Down	Mkt	2ND	1				
Neste OY, through its subsidiary Newmark	Finland	N/A	Murmansk Maritime Navigation, Archangel Oil	Russia	Arctic Region	Murmansk Oblast	Murmansk	Arctic Shipping Service JV		Joint Venture					Newmark has become a partner in a \$100 MM JV based in Murmansk to develop products distribution and marketing in the Russian Far North	O	Down	Mkt	1ST	0	100.00	100.00		
Neste OY(100%)	Finland	N/A	Tivoli(0%)	Belarus		Minsk Oblast	Minsk	Neste Oil BR		Wholly Owned Subsidiary		Operational			Neste has established a direct sales company, Neste Oil BR in Minsk to import and market gasoline and winter grade fuel. Neste has signed an agreement with Tivoli to sell Neste's products via its	O	Down	Mkt	1ST	0				

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Nichimen	Japan	Nissho Iwai Corp.(Japan), Marubeni Corp.(Japan), Itochu Corp.(Japan), Chiyoda Corp.(Japan) and JGC Corp.(Japan)	Government of Kazakhstan	Kazakhstan	Pre-Caspian Basin	Atyrau Oblast	Atyrau	Atyrau Refinery Upgrade			Mar-94	Contract Signed	NO	N/A	Nichimen representing all other Japanese partners signed a contract with the Kazakh Government to build an oil refinery on the Northern Shore of the Caspian Sea; the consortium has won more than \$600 MM of contracts	O	Down	RefUp	1ST	1		600.00	600.00	The use of a \$300 MM loan for Kazakhstan from JEXIM is likely to be permitted for the reconstruction project	
Norsk Hydro	Norway	N/A		Latvia	Baltic's	N/A		Latvian Gaze		Acquisition	Oct-95	Proposal Only			Norsk Hydro added its name to the list of potential investors interested in the privatization of Latvian Gaze; others include Gazprom; Ruhrgas and Gaz de France; 25% of shares to be sold off, 24% to international and 1% to	NG	Down	Dist	1ST	0					
Nova Chem, affiliate of Clinical Data Inc.	USA	Gazprom(Russia)	N/A	Kazakhstan						Agreement					Nova Chem will supply process technology for use in a natural gas processing facility	NG	Down	S&S	1ST	0					
Omega Thermal Technologies Inc.	USA	N/A	Yaroslavlnefteorgintez	Russia	Moscow Syncline	Yaroslavl Oblast	Yaroslavl	Yaroslavl Refinery Upgrade		Protocol/MOU					A letter of intent was signed to buy a US plant to recover solid and liquid wastes created by the Yaroslavl refinery; the plant can recover 2 tons of	O	Down	RefUp	1ST	1		5.00	5.00		
Pactank International	Netherlands	Paribas Petroleum Participation(France)	Neftedivniy Rayon	Russia	Baltic's	St. Petersburg Oblast	St. Petersburg	Zolotyie Vorota JSC		Joint Venture	*1993				JV to construct a 5.3 MMtpy products terminal in St. Petersburg. Pactank may withdraw unless St. Petersburg group contributes its share to the JSC. Pactank won tender in 1993 to build the	O	Down	Term	1ST	1				EBRD will guarantee investments in the project and arrange a \$15 MM loan.	
Penta Group	Turkey	N/A		Turkmenistan	West Turkmenistan Basin	Balkhan Oblast	Turkmenbashi (formerly Krasnovodsk)	Turkmenbashi Refinery Upgrade	N/A	Turnkey Contract					Penta Group is to carry out the \$250 MM upgrading of the 50-year old Turkmenbashi Refinery which currently runs at 50% capacity: 1st stage, 3 years, costing \$50 MM will be to upgrade the FCC, 2nd stage, costing \$200 MM	O	Down	Ref	1ST	1		See Individual Components	See Individual Components		
Petrofac	USA	N/A		Russia	Volga-Urals	Tatarstan	Kichui		N/A	Supply Contract					Equipment and technology will be supplied by Petrofac for the Kichui refinery. In Dec.'94 the 400,000 tpy refining installation was completed. The refinery supplies the Tatneft oil Association.	O	Down	RefUp	1ST	1		30.00	30.00		
Propak Systems Ltd.(0%)	Canada	Hillab(Denmark)	Kazkhgaz, Munaiymdori	Kazakhstan	Pre-Caspian Basin	West Kazakhstan Oblast	Karachaganak Field	Kondensat JV	N/A	Supply Contract			N/A	N/A	Kondensat JV to build a 400,000 tpy condensate refinery at the Karachaganak Field. Propak Systems Ltd is the principle supplier of	NG	Down	Ref	2ND	0		N/A	N/A	\$20 MM Canadian loan will be used to finish the project if the Kazakh Government provides a guarantee.	
Public Resources Infrastructure	US	N/A	Mazheikiai Nafta	Lithuania	Baltic's	N/A	Mazheikiai	Mazheikiai Refinery Upgrade	N/A	International Tender	Oct-95	Announced			Mazheikiai Nafta announced an international tender to secure \$45 MM in working capital and \$105 MM for refinery upgrade as part of an 8-10 financing plan; PRI of US was hired as financial advisor for project	O	Down	RefUp	1ST	1		250.00	250.00	PRI is to raise \$110 MM in two tranches over a 2 year period: 1st tranche is to be raised from banks in the US and Europe in 1996 will be for \$30 MM ten year loan; 2nd tranche is \$80 MM ten year loan for 1997	
Rosneft(50%)	Russia	N/A	Neftelchim(50%)	Bulgaria	Balkans		Sofia	Rosbulneft JV	1	Joint Venture	Oct-95	Agreement signed to set-up JV; JV Registered Dec.'95; Operati	NO	N/A	Rosneft & Neftelchim (the Bulgarian state-owned oil refinery) are to set-up JV to produce, transport, refine and market oil products; JV registered in Sofia Dec.'95; Rosbulneft to supply 5 MMt of oil to Bulgaria in '96; refining will take place at	O	Down	Mkt	1ST	0				Apparently, an unnamed Western Bank provided the JV with \$30 MM loan to buy oil in early 1996	

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Royal Dutch/Shell Group	UK / Netherlands	N/A	Permnefteorgsin tez	Russia	Volga-Urals	Perm Oblast	Perm	Shell Neft AO JV		Joint Venture		Operational			In Sept. '94 JV started producing engine lubricants in the central Russian refinery at Perm, part of the LUKoil conglomerate it will produce about 80,000 tpy	O	Down	RefUp	1ST	1					
Royal Dutch/Shell Group(100%)	UK / Netherlands	N/A	N/A	Estonia	Baltic's	N/A	Tallin	Shell Estonia AS		Wholly Owned Subsidiary					This is one of Shell's subsidiary for oil operations in the Baltic. Latvian subsidiary, Shell Latvia SIA, based in Riga will be the Regional Baltic office. Shell Eesti has opened a service station in Parnu, at least four more will be built in	O	Down	Mkt	1ST	0					
Royal - Dutch/Shell Group(100%)	UK / Netherlands	N/A	N/A	Latvia	Baltic's	N/A	Riga	Shell Latvia SIA		Wholly Owned Subsidiary					This is one of Shell's subsidiary for oil operations in the Baltic. Latvian subsidiary, Shell Latvia SIA, based in Riga will be the Regional Baltic office.	O	Down	Mkt	1ST	0					
Royal Dutch/Shell Group(100%)	UK / Netherlands	N/A	N/A	Lithuania	Baltic's	N/A		Shell Lietuva UAB		Wholly Owned Subsidiary					This is one of Shell's subsidiary for oil operations in the Baltic. Latvian subsidiary, Shell Latvia SIA, based in Riga will be the Regional Baltic office.	O	Down	Mkt	1ST	0					
Ruhrgas AG(15%)	Germany	Gazprom(Russia)(30%)	State of Estonia(40%)?, Other private investors(15%)	Estonia	Baltic's	N/A		Eesti Gaas AS		Acquisition	Apr-95	Operational	YES	In Apr. '95 Ruhrgas acquired a 15% interest in Eesti Gaas for \$5MM; Deal follows unsuccessful bid by Gaz de France; Under Parliamentary decree minimum state participation is 10%; Gazprom already owns 30% of shares in	Ruhrgas will acquire a 14.49% interest in the Estonian gas distributor, Eesti Gas; Eesti Gas is the state controlled gas import and distribution company	NG	Down	Mkt	1ST	0					
Sachsen Landes Bank	Germany			Russia	Volga-Urals	Bashkortostan	Salavat	Salavat Refinery Upgrade							Salavatnefteorgantex obtained a DM 34.2 MM credit from Germany's Sachsen Landes Bank to construct a styrene-manufacturing unit	O	Down	RefUp	1ST	1		23.00	23.00		
Sadko Oil NB, part of the Urals Group	Netherlands	N/A	Volgotanker PA, Krishinefteorgsin tez PA	Russia	Western Siberia	Omsk Oblast	Omsk	Urals JV - Omsk Refinery		Joint Venture		Operational	NO	N/A	"Oil refining and Ecology" JV with operations at Omsk Refinery.	O	Down	RefClean	1ST	0					
Sadko Oil NB, part of the Urals Group	Netherlands	N/A	Volgotanker PA, Krishinefteorgsin tez PA	Russia	Baltic's	St. Petersburg Oblast	Kirishi	Urals JV - Kirishi Refinery		Joint Venture		Operational	NO	N/A	"Oil refining and Ecology" JV with operations at Kirishi Refinery.	O	Down	RefClean	1ST	0					
Santa Maria	Portugal	Mori Europe(Portugal), Westros(Portugal)	Astrakhangazprom	Russia	Pre-Caspian Basin	Astrakhan Oblast	Astrakhan								Group will build the 2nd phase of the Astrakhan NG processing complex; production of gasoline, diesel, boiler fuel and sulfur is expected to double after operations in late 1995.	NG	Down	RefUp	1ST	1		300.00	300.00	Gazprom will contribute \$200 MM and Portuguese companies will contribute \$100 MM	
Siberian Far Eastern Oil Company	Russia	N/A	Pavlodar Oil Refinery	Kazakhstan	Western Siberia	Pavlodar Oblast	Pavlodar	Pavlodar Refinery		Acquisition	Jan-95	Proposal	NO	N/A	Siberian Far Eastern Oil Company has signed an agreement to acquire the Pavlodarsky Refinery in Kazakhstan.	O	Down	Ref	1ST	1					
SKL-Comprim	Germany	N/A	Ukhta Oil Refinery a division of KOMITEK	Russia	Timan-Pechora	Komi Republic	Ukhta	Ukhta Oil Refinery Upgrade	N/A	Service Contract	*1995	Signed	NO	N/A	SKL-Comprim is to build a \$28 MM diesel fuel hydro-refining & sulfur making facility with 500,000 tpy capacity; to be online by mid-1998; to rx DM 38 MM loan from group of German Banks; Part of \$780 MM upgrade programme	O	Down	RefUP	1ST	1	2	28.00	28.00	Ukhta Oil Refinery to rx DM 38 MM from a DM 300 MM loan in Mar. '96 from a group of German Banks: Westdeutsche Landesbank, Dresdner Bank, Deutsche Bank, Commerzbank all of which agreed to lend KOMI republic in 1995	

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Snampromgetti SpA	Italy	Norringa(Norway)	Mozyr Oil Refinery	Belarus	Dneper-Donets Basin	Mozyr Oblast	Mozyr	Mozyr Refinery Upgrade	N/A	Service Contract					Contract to carry out a \$260 MM upgrade to the 320,000 bopd Mozyr refinery. Upgrade includes a 50,000 bopd catalytic cracker, a vacuum distillation unit, and a MBTE facility; major uncertainty is the reliability of Russian	O	Down	RefUp	1ST	1		260.00	260.00		
SNC-Lavalin Group Inc.	Canada	Sumitomo(Japan)	Aktyubinskneft	Kazakhstan	Pre-Caspian Basin	Aktyubinsk Oblast	Zhanazhol Oil Field near Aktyubinsk	Aktyubinsk Refinery	N/A	Turnkey Contract	Jun-95	Agreement signed	N/A	N/A	SNC-Lavalin & Sumitomo were awarded a contract to build a oil processing plant (to separate sulfur & gas) at the Zhanazhol Oil Field near Aktyubinsk; 1st phase 11 months; 2nd, 3 yrs conditional on financing; operations to begin in Fall of 1987	O	Down	Ref	1ST	1		476.00	476.00	Kazakhstan has asked Belgium, Canada, Japan and the US to extend syndicated loans to finance the project; JEXIM is expected to provide \$150-200 MM in financing; Kazakhstan is still seeking other financing	
SNC-Lavalin Group Inc.	Canada	N/A	LUKoil	Russia	Volga-Urals	Volgograd Oblast	Volgograd	Volgograd Oil Refinery Upgrade	N/A	Supply Contract			N/A	N/A	Agreement to modernize an oil refinery to produce lead-free gasoline. Should be completed by the end of 1998, the contract is worth about \$50 MM. SNC-Lavalin will provide engineering services, project management procurement and start-up	O	Down	RefUp	1ST	1		500.00	500.00		
Statoil	Norway	N/A		Estonia	Baltic's	N/A			N/A	Supply Contract	Jan-94	Operational	N/A	N/A	Statoil was awarded a 10-yr contract to supply aviation fuel to Estonia; deliveries will begin in 1994 at 70,000 cu meters per year; Statoil's Swedish subsidiary will be responsible for deliveries	O	Down	Supply	1ST	0	10				
Statoil	Norway	N/A	N/A	Lithuania	Baltic's	N/A				Wholly owned Subsidiaries		Underway?	NO	N/A	Statoil will build a chain of 25 service stations in Lithuania. 1st two will be built in Mar.'95 at Kaunas and Vilnius. Project was delayed by inadequate legislation covering land purchases by foreign investors and financing	O	Down	Mkt	1ST	0		35.00	35.00		
Statoil	Norway	N/A		Russia	Arctic Region	Murmansk Oblast	Murmansk					Terminated in 1995	NO	N/A	In 1995 Statoil closed its troubled Murmansk gasoline station after 18 months of trouble	O	Down	Mkt	1ST	1					
Stephane East West Consulting	Germany		Belnefteproduct	Belarus		Vityebsk Oblast	Navapolatsk	PO Nafita (Navapolatsk Refinery) Upgrade		Proposal		Proposal			Proposal for a contract to reconstruct the Nafita oil refinery for which the first phase would cost \$350 MM, modernization program would lighten the barrel and assist petrochemical	O	Down	RefUp	1ST	1		350.00	350.00		
Stone & Webster	US	Lummus, Phillips, Itochu and Intec	Gazprom	Russia	Pre-Caspian Basin	Astrakhan Oblast	Astrakhan	Astrakhan Petrochemical Complex	N/A	Service Contract	May-94	May'94 Reported, Proposal Only			Gazprom wants to build a 125,000 tpy ethylene and 100,000 tpy PE plant at Astrakhan in the Volga Delta; Lummus, Phillips, Stone and Webster, Itochu and Intec are likely to get the engineering contract	NG	Down	Ref	1ST	1					
Stone & Webster Engineering Corp.	USA	Foster Wheeler Energy(UK)		Ukraine	Dneper-Donets Basin	Poltava Oblast	Kremenchug	Kremenchug Refinery Upgrade	N/A		May-95	Reported			S&W and FW are preparing plans to reconstruct 370,000 bopd Kremenchug Refinery; S&W is to revamp FCC raising output by 20,000 bopd; FW is carrying out FS to install \$40 MM, 60,000 bopd vacuum distillation unit;	O	Down	RefUp	1ST	1					

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Stone & Webster Engineering Ltd., subsidiary of Stone & Webster Engineering Corp.(USA)	USA	British Petroleum(UK)	Yaroslavlneftorg sintez	Russia	Moscow Syncline	Yaroslavl Oblast	Yaroslavl	Yaroslavl Refinery Upgrade: IA/IM FCC Revamp	N/A	Contract	Jan-94		NO	Preliminary discussions with other companies had taken place but it was eventually BP and S&W which were awarded the contracts	IA/IM FCC Revamp Project at the Yaroslavl Refinery; capacity increase includes raising gasoline yield by 9%; BP is project mgr and tech. advisor acting on behalf of Yaroslavl. S&W is FCC licensor and eng. contractor;	O	Down	RefUp	1ST	1	2.5	70.00	100.00	In Aug.'95 USEXIM signed a \$56 MM loan to support the project under its OGFA programme; JEXIM is expected to provide another \$200 MM; see Mitsui Entry; Jun.'95 USEXIM completed agreement for \$60 MM sale of	Project Schedule: Basic engineering = 9 months; Engineering and procurement = 18 months; Shutdown = 3 months; Using Northwest European Financing payback period is less than 3 years
Techmont SpA	Italy		Bashneftekimzavody	Russia	Volga-Urals	Bashkortostan	Ufa		N/A	Service Contract					Contract signed with two Bashkortostan refineries and Bashneftekimzavody Association to build a 100,000 tpy polypropylene plant.	O	Down	Ref	1ST	1					
Techmont SpA	Italy	N/A	Moscow Oil Refinery	Russia	Moscow Syncline	Moscow Oblast	Moscow	Moscow Oil Refinery Upgrade	N/A	Turnkey Contract	*1995	Ongoing	NO	N/A	Techmont is carrying out a \$150 MM turnkey contract for the upgrading of the Moscow oil refinery; includes a polypropylene unit with 12,000 tonne capacity which was	O	Down	RefUp	1ST	1		150.00	150.00		
Technip, subsidiary of Elf Aquitaine	France	French Petroleum Institute(France)		Russia	Volga-Urals	Bashkortostan	Novo-Ufimsk	Novo-Ufimskoye Refinery Upgrade	N/A	Service Contract	Feb-94	Operational			Technip will build the Novo-Ufimskoye Refinery with a capacity of 6 MMtpy; thus replacing 7 outdated installations; In Mar.'95 the revamping was completed mainly on the new FCC; negotiations are underway for a new reformer & catalyst production plant.	O	Down	RefUp	1ST	1	5	340.00	360.00	Cost of 5 year project is estimated at \$360 MM, at least half the equipment must be bought in Russia; this measure reduced cost from initial figure of \$700 MM; project to recoup costs in 3 yrs	
Technip, subsidiary of Elf Aquitaine	France	National Iranian Oil Company (Iran)	N/A	Turkmenistan	West Turkmenistan Basin	Balkhan Oblast	Turkmenbashi (formerly Krasnovodsk)	Turkmenbashi Refinery Upgrade	N/A	Turnkey Contract	Feb-96	Signed	N/A	N/A	NIOC and Technip signed an agreement with Gov't of Turkmenistan in Feb.'96 to build \$176 MM catalytic refining unit at Turkmenbashi; Capacity 1.8 MMtpy; 3 yrs for construction (1999); Part of the whole refinery upgrade programme. (See	O	Down	RefUP	1ST	1	3	176.00	176.00	Israeli based Merhav Management has secured \$500 MM in financing and guarantees from French, German, Japanese & Turkish ECAs	
Technip, subsidiary of Elf Aquitaine	France	Sotregaz	Government of Turkmenistan	Turkmenistan	Amu-Darya Province	Lepob Oblast	Seydi	Seydi NG Refinery Complex	N/A	Turnkey Contract	Jan-95	Framework Agreement signed Jan.'95; Nov.'95 Turnkey basis agreed	NO	N/A	Technip & Sotregaz to build a gas chemical complex in Seydi; 1st stage \$100 MM NG cleaning & liquefaction; Total cost \$300 MM; Linked to dev. of Samane Tepe NG Field; Impact on planned \$700 MM Mitsubishi & TPL Polyethylene plant in Seydi	NG	Down	Ref	1ST	1		100.00	300.00	Financing will be sought through international credits	
Technip, subsidiary of Elf Aquitaine	France	Marubeni(Japan), JGC(Japan), Gamma(Turkey); Sinopec(China)?	Uzbekneftegaz	Uzbekistan	Amu-Darya Province	Bukhara Oblast	Bukhara	Bukhara Refinery	N/A	Turnkey Contract	May-95	Signed	NO	N/A	Technip secured a turnkey contract to build a \$400 MM, 50,000 bopd refinery near Bukhara; expandable to 5 MMtpy; Start-up 2 yrs after contract signing (now estimated to be mid-97); To process condensate from Kokdumalak Field; construction began Jan.'96	O & G	Down	Ref	1ST	1	2	200.00	400.00		
Technovax(49%)	Greece	Greek Consortium is made up of Elliniki Technodomiki (Greece) and Avax(Greece); EBRD(?)	Trex Petrol (51%)	Moldova		N/A	Dzhudzhu est on the lower Danube River	Terminal S.A. - Dzhudzhu est Oil Terminal		Joint Venture	Sep-95	JV Formed	MAYBE	EBRD may take a stake	JV to build a 2.1 MMtpy oil products terminal, including 1.5 MMtpy of gasoline, on the Danube River near the village of Giurgiuesti; total cost \$38 MM; In Aug.'95 parliament voted in favour of the project; construction to begin in 1996	O	Down	Term	1ST	1		38.40	38.40	Techovax - \$5 MM; Trex Petrol \$5 MM; The EBRD will supply \$19 MM (\$16.5 MM in loan, \$2.5 MM in equity) although EBRD approved a loan as large as \$40 MM in Apr. '95; Group of Greek Banks - \$9	

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Terra Vac	USA	N/A		Ukraine	Lviv Depression	Lviv Oblast	Drogobych		N/A	Contract					Signed a \$87,000 contract with OPIC for a feasibility study of a waste-oil recovery and recycling facilities at the Drogobych refinery. Recovered waste will be sold to the refinery to ease feedstock shortages. Study to be completed by end of	O	Down	FSRef Up	1ST	1				
Texaco	USA	Norsk Hydro(Norway)	Svergos	Estonia	Baltic's	N/A		Esoil Privatization		Acquisition	Apr-96	Reported Negotiating	NO	N/A	Texaco and Norsk Hydro, through their JV Hydro-Texaco Holding, and Svergos have formed a consortium to compete for the privatization of the state-owned oil company.	O	Down	Ref	1ST	0				
Texaco Inc.	USA	Daldehyg AB(Sweden)		Estonia	Baltic's	N/A		Texaco Service Station in Estonia	N/A	Contract	Jun-96	Signed Jun. '96			Texaco let a contract to Daldehyg AB, to build Texaco's first service station in Estonia	O	Down	Mkt	1ST	1				
Texaco Inc.	USA	N/A	Kuibyshevnefteorgsintez	Russia	Volga-Urals	Samara Oblast	Novokuibyshev	Novo Kuibyshev Refinery Upgrade	N/A	Service Contract / Licensing Agreement		Reported May'94	NO	N/A	Texaco will design and license a 11,000 bopd methyl-pyrrolidone (MP) unit at the Novokuibyshevsk refinery. Purpose is to improve the refinery's efficiency. Design work will be completed by end of	O	Down	FSRef Up	1ST	1				
Texaco Inc.	USA	N/A	LUKoil	Russia	Volga-Urals	Perm Oblast	Perm	Permnefteorgsintez Refinery Upgrade	N/A	Service Contract / License Agreement			NO	N/A	Texaco will design a 67,000 bopd T-Star gas oil hydro-sulfurizer and a grass-roots fluid catalytic cracking (FCC) unit at the Permnefteorgsintez refinery at Perm. Designed to lighten the barrel.	O	Down	FSRef Up	1ST	1				
Texaco Scandinavia(50%) - a subsidiary of Texaco Inc.	USA	Norsk Hydro(Norway)(50%)	N/A	Lithuania	Baltic's	N/A	Vilnius	Hydro-Texaco JV		Joint Venture		Signed and Operational	NO	N/A	The Hydro-Texaco JV between Texaco and Norsk Hydro opened its first service station outside of Vilnius. Initial cost \$1.6 MM; payback estimated to be 6-7 yrs; plans to open a total of 20 service stations	O	Down	Mkt	1ST	1	1.60	1.60		
Texaco(51.1%)	USA	N/A	Uzbekneftegas(49.9%)	Uzbekistan	Ferghana Basin	Ferghana Oblast	Ferghana	Uz-Texaco JV - Ferghana Refinery		Joint Venture	Jun-96	Agreement Signed to form JV	NO	N/A	On 24 Jun. '96 Texaco signed an agreement with Uzbekneftegas to form a JV to manufacture lubricants at the Ferghana Refinery and then market throughout Central Asia; Texaco will initially invest	O	Down	Mkt	1ST	1	6.20	6.20		
Thermo Design Engineering - TDE	Canada	N/A	Orenburg Oil Company - Onako	Russia	Volga-Urals	Orenburg Oblast	Orenburg	Orenburg Gas Processing Plant	N/A	Supply Contract	*1995	Signed	NO	N/A	Onako signed a \$62 MM deal with Thermo Design Engineering of Canada to supply equipment for the first \$162 MM stage of a 2 Boppy gas processing facility (total cost \$360	NG	Down	Ref	1ST	1	162.00	360.00	\$100 MM loan may come from Canada, loan to be discussed in Oct. '96 during RF Prime Minister's visit to Canada	
TMR Energy Ltd.(47%)	France / Switzerland	Total(France), Marc Rich(Switzerland)	New Baku Refinery(47%); Sovbunker(6%)	Azerbaijan	Transcaucasus		Baku	Azinteroil JV - Baku Oil Refinery Upgrade		Joint Venture	*1989	Operational; Suspend	NO	N/A	TMR Energy, a joint venture between Total and Marc Rich, is implementing a major upgrading and reconstruction project at the Baku Refinery for a share of the increased products work resulting	O	Down	RefUp	1ST	1				TMR Energy Ltd. is a 50:50 JV between Total(France) and Marc Rich & Co AG (Switzerland)
TMR Energy Ltd.(48%)	France / Switzerland	Total(France), Marc Rich(Switzerland)	Ukhta Oil Refining Works(48%); Sovbunker(4%)	Russia	Timan-Pechora	Komi Republic	Ukhta	Ukhtoil JV - Ukhta Refinery Upgrade		Joint Venture	Apr-90	Operational; Suspend	NO	N/A	JV will modernize the Ukhta Refinery; project calls for \$200 MM investment through 1995; JV already producing nearly 3,000 tons of lean products a month from the oil slurry on-site	O	Down	RefUp	1ST	1	200.00	200.00		TMR Energy Ltd. is a 50:50 JV between Total(France) and Marc Rich & Co AG (Switzerland)
TMR Energy Ltd.(48%)	France / Switzerland	Total(France), Marc Rich(Switzerland)	Volgograd Refinery(48%); Soyuznefteexport(later Naphtoesport)(4%)	Russia	Volga-Urals	Volgograd Oblast	Volgograd	Volgograd (formerly Volgool) JV - Volgograd Refinery Upgrade		Joint Venture	Nov-90	Operational; Suspend	NO	N/A	JV will upgrade the Volgograd refinery; two projects underway: 1st to refurbish the primary refining unit; 2nd is upgrading unit for high-octane Mogas production	O	Down	RefUp	1ST	1				TMR Energy Ltd. is a 50:50 JV between Total(France) and Marc Rich & Co AG (Switzerland)

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country	Host Geological or Geographical Region	Host Political Region	Host Location	Name of Project/JV	Charter Capital (\$US MM)	Contract Form	Date Signed or JV Registered	Status	Farm-in	Farm-in Notes	Project Description	O & G N	Sector	Type	Contract Level	Actual Project or Contract Duration (Yr)	Total Investment Low Estimate (\$US MM)	Total Investment High Estimate (\$US MM)	Financing Notes	Contract Notes #1
TMR Energy Ltd. (50%)	France / Switzerland	Total(France), Marc Rich(Switzerland)	Lisichansk Oil Refinery Works(50%)	Ukraine	Dneper-Donets Basin	Lugansk Oblast	Lisichansk	Lisimac (formerly Lisoi) JV — Lisichansk Refinery Upgrade		Joint Venture	Nov-91	Operational	NO	N/A	JV will upgrade the Lisichansk Refinery including the installation of a FCC Unit;	O	Down	RefUp	1ST	1				TMR Energy Ltd. is a 50:50 JV between Total(France) and Marc Rich & Co AG (Switzerland)
Tomsk Petroleum Co.	USA	N/A	Tomskneft, Tomsk Petrochemical Plant	Russia	Western Siberia	Tomsk Oblast				Tender				Is Tomsk Petroleum in a JV with Vostochnaya Kampaniya, together which they won the tender?	Tomsk Petroleum has won a tender to build a new 120,000 bopd oil refinery in the Tomsk Oblast of Western Siberia; Output is expected to be 2 Mmtpy of oil products and 1	O	Down	Ref	1ST	1	1380.00	1380.00		
Toyo Engineering Corp.	Japan		Techmasheport	Russia	Volga-Urals	Samara Oblast	Novo-Kulbyshev	Novo-Kulbyshev Refinery Upgrade	N/A	Service Contract					A \$120 MM contract for the delivery and installation of oil refining equipment at the Novo-Kulbyshev Refinery; after installation it will be the only refinery producing high octane gasoline capable of meeting international	O	Down	RefUp	1ST	1	120.00	120.00		
Toyo Engineering Corp.	Japan	Mitsui Bussan(Japan), Nippon(Japan), Itayu Sazue(Japan)		Russia	Volga-Urals	Samara Oblast	Syzran	Syzran Refinery Upgrade	N/A	Contract	Feb-95	Reported Signed	NO	N/A	Japanese consortium announced in Jan/Feb '94 it would bid to carry out the reconstruction of the Syzran oil refinery complex; modernization, improve efficiency; current capacity is 80,000 bopd; in Sept. '95 reported that work	O	Down	RefUp	1ST	1	100.00	100.00		
Tropak Systems	Canada		Kazakhgas Company	Kazakhstan					N/A	Agreement		Proposal			Agreement to build a refinery in Kazakhstan to provide 330,000 tpy of gasoline, diesel fuel and	O	Down	Ref	1ST	1				
US Exploration Inc.	USA	Aztec Oil & Gas (USA)	Kyrgyzneft	Kyrgyzstan	Ferghana Basin	Jalal-Abad Oblast	Jalal-Abad	Aztec-Talas JV — Jalalabad Refinery	N/A	Supply Contract		Signed	NO	N/A	During May-Jun. '94 US Exploration acquired 2 closed 10,000 bopd in order to construct a 10,000 bopd refinery at Jalal-Abad, Kyrgyzstan with the Aztec-Talas JV in Kyrgyzstan. (See Aztec-Talas Entry)	O	Down	S&S	2ND	0	N/A	N/A		
US Petroleum(5%)	USA	Nimir(Saudia Arabia)	Sakhalin Regional Government	Russia	Russian Far East	Sakhalin Oblast	Pogranichnoye	Petrosakh JV		Joint Venture		Operational	YES	Nimir of Saudi Arabia (see Upstream Entry)	JV commissioned to build a new 300,000 tpy refinery at Pogranichnoye; will be fed from crude which the JV is producing at Okruzhnoye Oil Field; total cost of refinery, residential settlement, and 20 km	O	Down	Ref	1ST	1	12.00	12.00		
Vantech Engineering Inc.	USA	N/A	Pemneft PA.	Russia	Volga-Urals	Perm Oblast	Perm		N/A	Supply Contract					Vantech is building a 4,000 bopd distillation unit to produce naphtha, kerosene, diesel, and residual oil. Should be operational by winter of	O	Down	Ref	1ST	1				
Vantech Engineering Inc.	USA	N/A	Kand Petroleum	Russia	Western Siberia				N/A	Supply Contract					Supply 6,000 bopd modular unit for installation by Kand in Siberia; Each Unit costs \$4-7 MM and can be built 7 mths; closest refinery is 200 miles with no infrastructure; Became operational in July'94; produces diesel & kerosene	O	Down	Ref	1ST	1	4.00	7.00		
Vantech Engineering Inc.	USA	N/A	Kogalymneftegas	Russia	Western Siberia		Kogalym		N/A	Supply Contract					Vantech will construct and supply a \$18-20 MM modular catalytic reformer and distillate hydro-treater at Kogalym in Siberia; Units will be shipped in 1st Qtr. '94; 3,000 bopd hydro-treater & 850 bopd reformer to start in spring of	O	Down	Ref	1ST	1	20.00	25.00		

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country	Host Geological or Geographical Region	Host Political Region	Host Location	Name of Project/JV	Charter Capital (\$US MM)	Contract Form	Date Signed or JV Registered	Status	Farm-in	Farm-in Notes	Project Description	O & G NG	Sector	Type	Contract Level	Actual Project or Contract Duration (Yr)	Total Investment Low Estimate (\$US MM)	Total Investment High Estimate (\$US MM)	Financing Notes	Contract Notes #1	
Vantech Engineering Inc.	USA	N/A	Uraintefegas	Russia	Western Siberia	Khanty-Mansiysk Aut. Okrug	Uray		N/A	Supply Contract		Operational			Construct a pre-fabricated mini-refining (2,000 bopd) in Uray for the local population. Construction began in Mar.'94; In Dec.'95 the mini-refinery became operational and produces naphtha, kerosene, diesel	O	Down	Ref	1ST	1					
Vardoyannis Group	Greece	OK Petroleum(Sweden)	Rosnefteprodukt, Krasnodarnfteprodukt, Tuapse Oil Base	Russia	North Caucasus Province	Krasnodar Krai				Joint Venture?					Construction of a 50,000 tpy waste kerosene oil reprocessing plant in the Krasnodar Region	O	Down	Ref	1ST	1	80.00	80.00	EBRD will supply a \$12 MM loan		
Verbundnetz Gas AG	Germany	N/A	Gazprom	Russia					N/A	Contract	Jan-94				Verbundnetz Gas AG signed an agreement with Gazexport, a subsidiary of Gazprom, to buy 3.1 Bcm of NG in 1994, which is part of a governmental agreement valid until 1998.	O	Down	Offtake	1ST	0	1				
Viscount International Trading Ltd.(38.9%)	UK	N/A	Balshikha-Lada(61.1%)	Russia	Moscow Syncline	Moscow Oblast	Balshikha	Balkar Trading JV		Joint Venture	Aug-91	Operational	NO	N/A	8Oct.'93 registered as special exporter; Exports for Noyabrskneftegaz, 10MMtpy in '94; Jan.&Mar.'95 won license to sell 4 MMtpy of oil to Mobil; Sep.'95 Pyotr Yanchev(director) arrested, suspicion of illegal dealing; Mar.'96 Mobil contract suspended.	O	Down	Export	1ST	0					
Vital-Cyprus Ltd, a subsidiary of Vital Holding of the Netherlands	The Netherlands	LUKoil(Russia)	Chimkentnefteorgantex, formerly Chimkent Refinery	Kazakhstan	Syn-Darya Basin	Chimkent Refinery	Chimkent Refinery	Chimkent Refinery Privatization		Acquisition	Nov-95	Tender Called; Ongoing	NO	N/A	On 20 Nov.'96 Kazakhstan called tender for sale of 90% of Chimkent Refinery; tender scheduled for Feb./Mar.'96; Both Vital and LUKoil have pre-qualified; If LUKoil wins it is likely the UTEK(proposed Yuzhneftegas & Chimkent)-	O	Down	Ref	1ST	0					
Wickland Corp.	USA	N/A		Russia	Russian Far East	Primorsky Krai	Nakhoda	Navik Oil Ltd. JV		Joint Venture	Feb-95				JV to service the light product needs of Pacific Rim customers from the oil port of Nakhoda.	O	Down	Mkt	1ST	0					
YUKOS(50%)	Russia	N/A	ESER(Turkey)(50%)	Turkey				Yusat Petrol JV	2	Joint Venture	Jun-93	Operational	NO		JV calls for shipping 3 MMtpy of West Siberian Crude to Turkey for refining at Izmir refineries and selling through the 53 gas stations that Yusat Petrol is planning to buy from Petrol Ofisi	O	Down	Mkt	1ST	0					
Zimco Inc.	USA	US Chamber of Commerce	Chelyabinsk Regional Administration: Plad Co.	Russia	Urals	Chelyabinsk Oblast	Chelyabinsk	Chelyabinsk Refinery		Protocol/MOU	Nov-95	Reported Protocol of Intent Signed			A protocol of intent was signed to build the 1st refinery in the Chelyabinsk Oblast with a capacity of 300 MMtpy; To be build within 1 year	O	Down	Ref	1ST	1	1				
ZZ-Unknown			Armenian Ministry of Fuel and Energy	Armenia	Transcaucasus		Yerevan	Yerevan Petrochemical Plant Conversion							As of Aug. 1994 the design and engineering to convert and idle petrochemical plant near Yerevan into a 1 MMtpy (20,000 bopd)	O	Down	Ref	1ST	1					
ZZ-Unknown	Belgium			Russia	Volga-Urals	Samara Oblast	Samara	Nefsam JV		Joint Venture	Before 1994	Operational			JV licensed to export 1.2 MMtpy from the Samara Refinery	O	Down	Export	1ST	0					
ZZ-Unknown				Russia				Alfa-Echo		Joint Venture		Operational			Special exporter	O	Down	Export	1ST	0					
ZZ-Unknown			NMV, backed by Surgutneftegaz	Russia	Volga-Urals	Nizhny Novgorod Oblast	Nizhny Novgorod	Kalininabad Refinery		Joint Venture		Proposal	LIKELY	Seeking foreign partners:	NMV, backed by Surgutneftegaz plans to build a refinery with 1 MMtpy capacity in the Borodsky district of Nizhny Novgorod; financing to be sought from a UK bank with a the CB guarantee	O	Down	Ref	1ST	1	1.6	46.00	46.00	Financing to be sought from a UK bank with a the Russian Central Bank guarantee; payback est. to be 2-3 yrs	
ZZ-Unknown	Russia	(Turkish)		Tajikistan	Afghan-Tajik Basin	Khatlonskaya Oblast	Kalininabad	Kalininabad Refinery							Tajikistan plans to build a 1,750 bopd refinery in Kalininabad using a Russian-Turkish export and construction company;	O	Down	Ref	1ST	1					
																Total				118		\$28,421	\$30,616		

Appendix A.6 FOGI Database: Miscellaneous

Principal Foreign Partner	Principal's Home Country	Other Foreign Partners	Domestic Partners	Host Country	Host Geological or Geographical Region	Host Political Region	Host Location	Name of Project/JV	Charter Capital (\$US MM)	Contract Form	Date Signed or JV Registered	Status	Form-in	Form-in Notes	Project Description	O & G NG	Sector	Type	Contract Level	Actual Project or Contract Duration (Yr)	Initial Investment (\$US MM)	Total Investment Low Estimate (\$US MM)	Total Investment High Estimate (\$US MM)	Financing Notes	Contract Notes #1
Bechtel	USA	Arthur Anderson & Co.(USA), Southern Electric International, USAID		Baltic States & Eastern Europe				USAID Regional Energy Efficiency Program	N/A	Contract	Jun-95	Operational	N/A	N/A	A consortium led by Bechtel has signed a 3 yr- \$18 MM contract with USAID under its REEP to restructure energy sectors and streamline regulatory systems;	O&G	Low	TA	1ST	3	18.00	18.00	18.00	\$18 MM Contract funded fully by USAID.	
Control Data Systems	USA	Four Canadian Companies	Government of the Khanty Mansiysk Aut. Okrug	Russia	Western Siberia	Khanty-Mansiysk Aut. Okrug			N/A	Contract			NO	N/A	Develop legislation and regulation for resource management and establish a government agency to oversee oil exploration and production.	O&G	Low		1ST						
Cooper	USA	N/A	Zarubezhneft	Russia															1ST						
Deutsche Bank AG	Germany	Treuhandanstalt(Germ any), Veba Oel AG(Germany)	Tyumen Administration, Mintopenergo, Sibneftebank	Russia	Western Siberia	Tyumen Oblast		Tyumen 1 Credit-Barter Agreement	N/A	Loan	Sep-93	Bilateral Trade Agreement Signed Jan.'93; Operational	N/A	N/A	\$588 MM Oil for capital goods barter exchange for oil between Tyumen Oblast & Germany; Sibneftebank & Deutsche Bank Credit Agreement signed Sept.'93; Oil Delivery Contract with VEB signed Nov.'93; Operational	O	Up	Bank	1ST			588.00	588.00	Barter Arrangement: DM 290 MM to be repaid from deliveries of oil to Germany via German firm Veba Oil International; by end of 1995 Tyumen had received DM 185 million; Hermes, the German ECA is involved	On 7 Oct.'93 (Res. No. 1769) RF Gov't. granted Tyumen Oblast an export quota of 3 MMt (1 MMt/yr) starting in 1993. 941,000 t were shipped in 1994 and 402,000 are to be delivered in 1995; end of 1995 1.4MMt of oil
Deutsche Bank AG	Germany	Treuhandanstalt(Germ any), Veba Oel AG(Germany)	Tyumen Administration, Mintopenergo, Sibneftebank	Russia	Western Siberia	Tyumen Oblast		Tyumen 2 Credit-Barter Agreement	N/A	Loan	1996/97	Proposal	N/A	N/A	A second similar Credit/Barter Arrangement is being proposed	O	Up	Bank	1ST						
Dresdner Bank	Germany	European Banking Consortium	Tatneft	Russia	Volga-Urals	Tatarstan		1993 Credit Line for Tatneft	N/A	Loan	Dec-93	Operational	N/A	N/A	Dec.'93 a German consortium led by Dresdner Bank opened a \$50 MM credit line to Tatneft; By Sept.'95 this enabled Tatneft to start-up 11 new fields (total prod. 3.2 MMbbls with current rate 12,000 bopd); loans being repaid by oil sales to	O	Up	Bank	1ST			50.00	50.00		
Dresdner Bank	Germany	European Banking Consortium; Veba's subsidiary Stinnes AG(Germany)	Tatneft	Russia	Volga-Urals	Tatarstan		1995 Credit line for Tatneft	N/A	Loan	Sep-95	Reported negotiating	N/A	N/A	In Sept.'95 BVS the German Agency for Reunification signed a trade & credit agreement with Tatarstan; Dresdner Bank leading a European Banking consortium is to provide export credit guarantee backed financing to accelerate development of new oil fields;	O	Up	Bank	1ST			675.00	675.00		
Ruor Daniel	USA	N/A	N/A	Russia	Moscow Syncline	Moscow Oblast	Moscow	Ruor Daniel Eurasia	100% owned foreign subsidiary		Jul-95	Reported Formed	NO	N/A	Ruor Daniel was reported to have formed Ruor Daniel Eurasia in Moscow to provide engineering and construction services to Russian and international	O&G	Eng	S&S	1ST						
Gazprom	Russia	N/A	Gasunie (50% owned by Gov't, 25% Shell, 25% Exxon)	Netherlands						Contract	May-96	Signed	N/A	N/A	In May 1996 Gasunie, a Dutch Distribution company (50% owned by the state, 25% Exxon, 25% Shell) signed a 20 year contract for the delivery of 4 Bcm per year of NG	NG	Down	Sale	1ST	20					
Government of Russia	Russia	N/A	Government of Mongolia	Mongolia	N/A	N/A		Monrosvet JV		Joint Venture	Mar-94	Proposal			Proposal to set up a JV to prospect, produce and refine oil and gas in the newly Mongolia	O&G	Up / Down		1ST						
Government of Turkmenistan	Turkmenistan	N/A	Government of Armenia	Armenia						Protocol/MOU	Jun-95	Protocol			The Government of Turkmenistan and Government of Armenia signed a protocol on cooperation in the field of energy in Ashgabat on 25-27 June 1995	O&G	Up / Down		1ST						
Lahmeyer International	Germany	N/A		Armenia						Contract					EBRD has selected Lahmeyer to draft a master plan for Armenia's future power supply industry, including roles for oil and	O&G	Up / Down	FS	1ST					EBRD is fully financing the study.	

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LUKoil(25%)	Russia	Zarubezhneft(Russia)(25%), Mashinimport(Russia)(25%)		Iraq	N/A	N/A	Kuma Oil Field	Kuma PSA	N/A	PSA	Jul-95	Jul. 95 contract Signed			A PSA was signed on 3.Jul.95 with three Russian companies to develop the Kuma oil field in Iraq after the UN Sanctions are lifted.	O	Up	Dev	1ST						
MC European Capital		N/A	Sintez Corporation	Russia	N/A	Moscow Oblast	Moscow	United City Bank	20	Joint Venture			NO	N/A	In May'95 it was announced that a new investment bank focusing on the O&G sector will be established. UCB which currently operates as a small commercial bank will have a paid in capital of \$20 MM. UCB is a JV between Sintez Corp. &	O&G	Up / Down	Bank	1ST						
Metallgesellschaft	Germany	Dresdner Bank	Government of Udmurtia	Russia	Volga-Urals	Udmurtia			N/A	Protocol/MOU	Jan-94	Unknown	N/A	N/A	Metallgesellschaft signed a protocol with Udmurtia and Dresdner Bank to supply oil to Germany; Dresdner Bank will grant \$500 MM credits to Udmurtia to be paid off in 10 yrs through export of 6.2 MMt of oil to	O	Up / Down	Bank	1ST	10		500.00	500.00	Dresdner Bank will grant \$500MM credits to Udmurtia to be paid off in 10 yrs through export of 6.2MMt of oil to Metallgesellschaft.	
Tatneft	Russia	N/A	Degere(Turkey)	Turkey	N/A	N/A		Taturos JV		Joint Venture	*1993/4				JV to carry out geological prospecting and operations aimed at improving recovery techniques. In addition the JV is currently negotiating a project for launching a petrochemical plant in	O	Up	E&D	1ST						
Torch Energy Advisors Inc.	USA	Petroleum Management (USA); and Bear, Stearns & Co. (USA)	Rosneft, ... others	Russia				Russian Oil Direct Investment Fund	100	Investment Fund	Jan-96	Launched			Torch Energy Advisors Inc., Petroleum Management, and Bear, Stearns & Co. have set-up a \$100 MM Russian Oil Direct Investment Fund with the purpose of raising money on foreign capital markets to invest in Russia's oil	O	Up	Fund	1ST			100.00	100.00		
Zarubezhneft	Russia	Sakhalinmorneftegaz	Petrovietnam	Vietnam	N/A	N/A	Blocks 9 & 16			Joint Venture	Dec-95	Proposal to form JV reported	MAYBE	Plan to invited western partner	Zarubezhneft and Petrovietnam plan to form a new JV to develop Blocks 9 and 16 offshore Vietnam	O	Up	E&D	1ST						
Zarubezhneft(10%)	Russia	Imperial Bank(Russia)(20%), National Credit(Russia)(20%)	Vietcombank(50%)	Vietnam	N/A	N/A		Russia-Vietnam Bank (name not yet known)	10	Joint Venture	Aug-95	Protocol of Intent Signed	NO	N/A	Russia and Vietnam will form a JV Bank with a capitalisation of \$10 MM; bank will mainly service the Russian-Vietnamese oil JV, Vietsovpetro, created in 1985; charter approval expected within 6 months;	O	Up	Bank	1ST		10.00	10.00	10.00		
Zarubezhneft(50%)	Russia	N/A	Petrovietnam	Vietnam	N/A	N/A	White Tiger & Vietnam Fields	Vietsovpetro	1500	Joint Venture	*1985	Operational	NO	N/A	Zarubezhneft and PetroVietnam formed Vietsovpetro in 1985; By end of 1995 JV will have extracted 6.7 MMt of oil; CAPEX for 1995-96 is \$450-500 MM; Russia's annual profit \$150 MM of which 85% for Govt, 10% reinvested, 5% for	O	Up	E&D	1ST						
ZZ-Unknown	UK	N/A		Latvia	Baltic Sea	Baltic Sea	Ventspils	Lenoil Ltd. JV		Joint Venture									1ST						
ZZ-Unknown				Russia				Naftacos JV		Joint Venture		Operational				O	Up		1ST						
ZZ-Unknown				Russia				Aprio JV		Joint Venture		Operational					Up		1ST						

Appendix B. Equity Ownership of Upstream Sector JVs

B.2

Name or Principal Partners	Sector	Country	Domestic Share	Foreign Share
ANSAD Petrol JV	Up	Azerbaijan	51.0%	49.0%
Baku JP Kenny JV	Up	Azerbaijan	50.0%	50.0%
Caspian Geophysical JV	Up	Azerbaijan	51.0%	49.0%
ZZ - Unknown JV (SOCAR, Altyntash)	Up	Azerbaijan	50.0%	50.0%
Georgian British Oil Company JV	Up	Georgia	50.0%	50.0%
Central Asian Petroleum Guernsey	Up	Kazakhstan	50.0%	50.0%
Karachaganakgazprom JV	Up	Kazakhstan	15.0%	85.0%
Kazakhturkmunai JV	Up	Kazakhstan	51.0%	49.0%
Kazgermunai JV	Up	Kazakhstan	50.0%	50.0%
KomiQuest JV	Up	Kazakhstan	50.0%	50.0%
Kumkol LUKoil JV	Up	Kazakhstan	50.0%	50.0%
Munai JV	Up	Kazakhstan	63.0%	37.0%
TengizChevroil JV	Up	Kazakhstan	25.0%	75.0%
Tulpar Munai JV	Up	Kazakhstan	50.0%	50.0%
Turan Petroleum JV	Up	Kazakhstan	50.0%	50.0%
ZhetybayQuest JV	Up	Kazakhstan	50.0%	50.0%
Aztec Talas JV	Up	Kyrgyzstan	50.0%	50.0%
ZZ - Unknown (Ventspils Nafta, Amoco, OPAB)	Up	Latvia	10.0%	90.0%
Aki-Otyr JV	Up	Russia	49.0%	51.0%
Akobe Pressaug Munai JV	Up	Russia	50.0%	50.0%
Amkomi JV	Up	Russia	50.0%	50.0%
Arctic Petroleum JV	Up	Russia	50.0%	50.0%
ASTA JV	Up	Russia	51.0%	49.0%
ASTAR JV	Up	Russia	51.0%	49.0%
Bitech-Silur JV	Up	Russia	5.0%	95.0%
Bitran JV	Up	Russia	67.0%	33.0%
Black Gold JV	Up	Russia	50.0%	50.0%
Buzuluk Crystal JV	Up	Russia	50.0%	50.0%
Carpatsky Petroleum JV	Up	Russia	55.0%	45.0%
Caspoil JV	Up	Russia	69.5%	30.5%
Chernogorneft JV	Up	Russia	50.0%	50.0%
Dagco JV	Up	Russia	50.0%	50.0%
Geoilbent JV	Up	Russia	66.0%	34.0%
JoyLud JV	Up	Russia	55.0%	45.0%
Kamaneft JV	Up	Russia	51.0%	49.0%
KANT JV	Up	Russia	40.0%	60.0%
Katkoneft JV	Up	Russia	60.0%	40.0%
KhantyMansiyskneftehunt JV	Up	Russia	50.0%	50.0%
KomiArcticOil JV	Up	Russia	50.0%	50.0%
LUKAGIP JV	Up	Russia	66.6%	33.3%
Nobel Oil JV	Up	Russia	50.0%	50.0%
Nord Oil JV	Up	Russia	60.0%	40.0%
North Gas JV	Up	Russia	50.0%	50.0%
Parmaneft JV	Up	Russia	25.0%	75.0%
Pechorneftegas JV	Up	Russia	30.0%	70.0%
Permtex JV	Up	Russia	50.0%	50.0%
Permtotineft JV	Up	Russia	50.0%	50.0%
Petrosakh JV	Up	Russia	50.0%	50.0%

B.3

Name or Principal Partners	Sector	Country	Domestic Share	Foreign Share
Polar Lights JV	Up	Russia	50.0%	50.0%
Polar Oil & Gas Company JV	Up	Russia	50.0%	50.0%
Pur River JV	Up	Russia	50.0%	50.0%
Radoneft JV	Up	Russia	51.0%	49.0%
Samotlor PanCanadian Fracmaster JV	Up	Russia	50.0%	50.0%
SANK JV	Up	Russia	50.0%	50.0%
SeverTEK JV	Up	Russia	50.0%	50.0%
Shell Petroleum Development (Evikhon, Shell)	Up	Russia	50.0%	50.0%
Siberian Sperry Sun JV	Up	Russia	50.0%	50.0%
Sibinvestnafta JV	Up	Russia	69.0%	31.0%
SINCO JV	Up	Russia	49.7%	50.3%
Sortymoil JV	Up	Russia	70.0%	30.0%
Strezhevoy Services JV	Up	Russia	50.0%	50.0%
Symskaya Exploration JV	Up	Russia	45.0%	55.0%
Takt JV	Up	Russia	50.0%	50.0%
Tatex JV	Up	Russia	50.0%	50.0%
Tatoilgas JV	Up	Russia	53.0%	47.0%
Tatoilpetro JV	Up	Russia	50.0%	50.0%
TexTerm JV	Up	Russia	50.0%	50.0%
Tuymengazcamco JV	Up	Russia	50.0%	50.0%
Uraloil JV	Up	Russia	51.0%	49.0%
Urengoil Trace JV	Up	Russia	50.0%	50.0%
VakhfracMaster JV	Up	Russia	50.0%	50.0%
Vanyeganneft JV	Up	Russia	50.0%	50.0%
Vasyugan Services JV	Up	Russia	50.0%	50.0%
Volgademinoil JV	Up	Russia	50.0%	50.0%
White Nights JV	Up	Russia	50.0%	50.0%
Yogan Oil JV	Up	Russia	50.0%	50.0%
Yuganskfracmaster JV	Up	Russia	51.0%	49.0%
Yugraneft JV	Up	Russia	40.0%	60.0%
ZZ - Unknown (LUKoil, ARCO)	Up	Russia	46.0%	54.0%
ZZ - Unknown (Yuganskneftegas, Vetran Resources)	Up	Russia	55.0%	45.0%
Keymir JV	Up	Turkmenistan	50.0%	50.0%
Larmag-Cheleken JV	Up	Turkmenistan	50.0%	50.0%
Yashlar JV	Up	Turkmenistan	25.0%	75.0%
Crimean Petroleum Company JV	Up	Ukraine	55.0%	45.0%
Kashtan Petroleum JV	Up	Ukraine	50.0%	50.0%
KyrmTexasNafta JV	Up	Ukraine	40.0%	60.0%
Poltava Petroleum Company JV	Up	Ukraine	51.0%	49.0%
Uzmaloil JV	Up	Uzbekistan	50.0%	50.0%
Average			49.1%	50.9%
Median			50.0%	50.0%
Mode			50.0%	50.0%
STNDEV			10.6%	10.6%

Appendix C. Forecasting Upstream Capital Expenditures

Appendix C.1 Regression Analysis of Capital Expenditures

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.906
R Square	0.820
Adjusted R Square	0.811
Standard Error	11.763
Observations	22

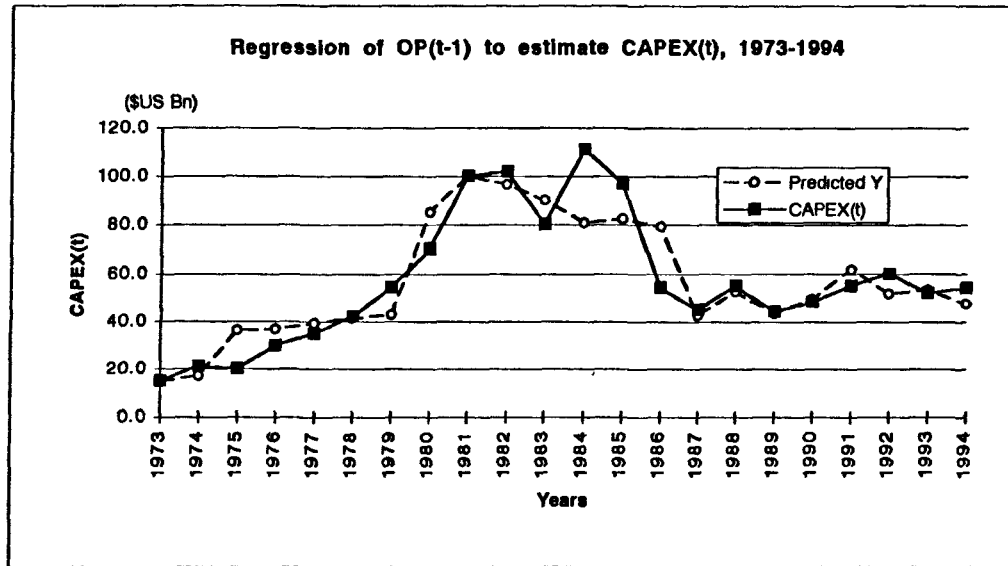
ANOVA

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	12646.160	12646.160	91.397	0.000
Residual	20	2767.294	138.365		
Total	21	15413.455			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	9.830	5.492	1.790	0.089	-1.627	21.287
OP(t-1)	2.526	0.264	9.560	0.000	1.975	3.078

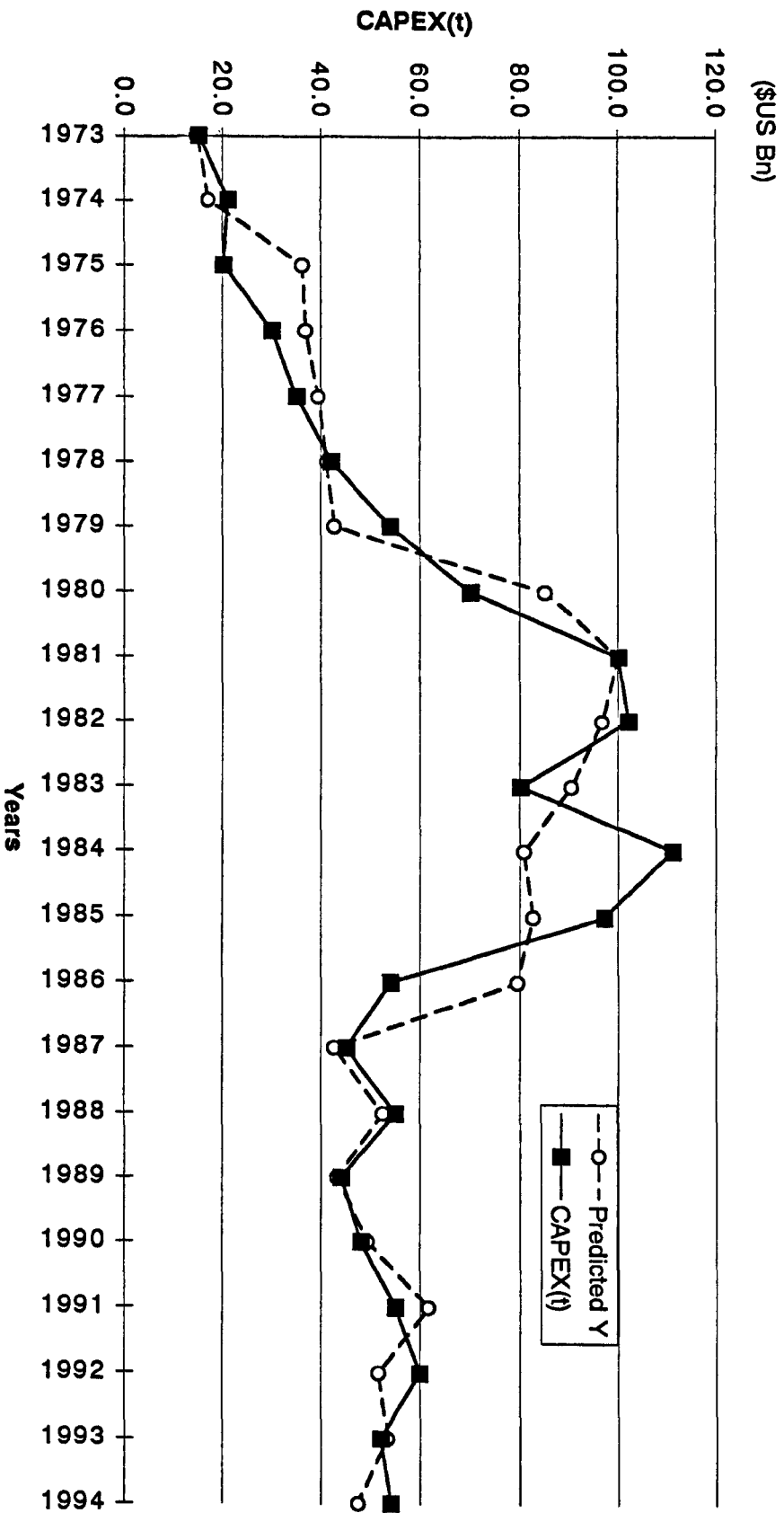
RESIDUAL OUTPUT

Observation	Predicted CAPEX(t)	Residuals
1973	14.6	0.4
1974	17.0	4.0
1975	36.1	-16.1
1976	36.9	-6.9
1977	39.2	-4.2
1978	41.1	0.9
1979	42.7	11.3
1980	85.0	-15.0
1981	100.0	0.0
1982	96.5	5.5
1983	90.2	-10.2
1984	80.7	30.3
1985	82.5	14.5
1986	79.4	-25.4
1987	42.6	2.4
1988	52.6	2.4
1989	43.2	0.8
1990	49.5	-1.5
1991	61.6	-6.6
1992	51.7	8.3
1993	53.3	-1.3
1994	47.5	6.5

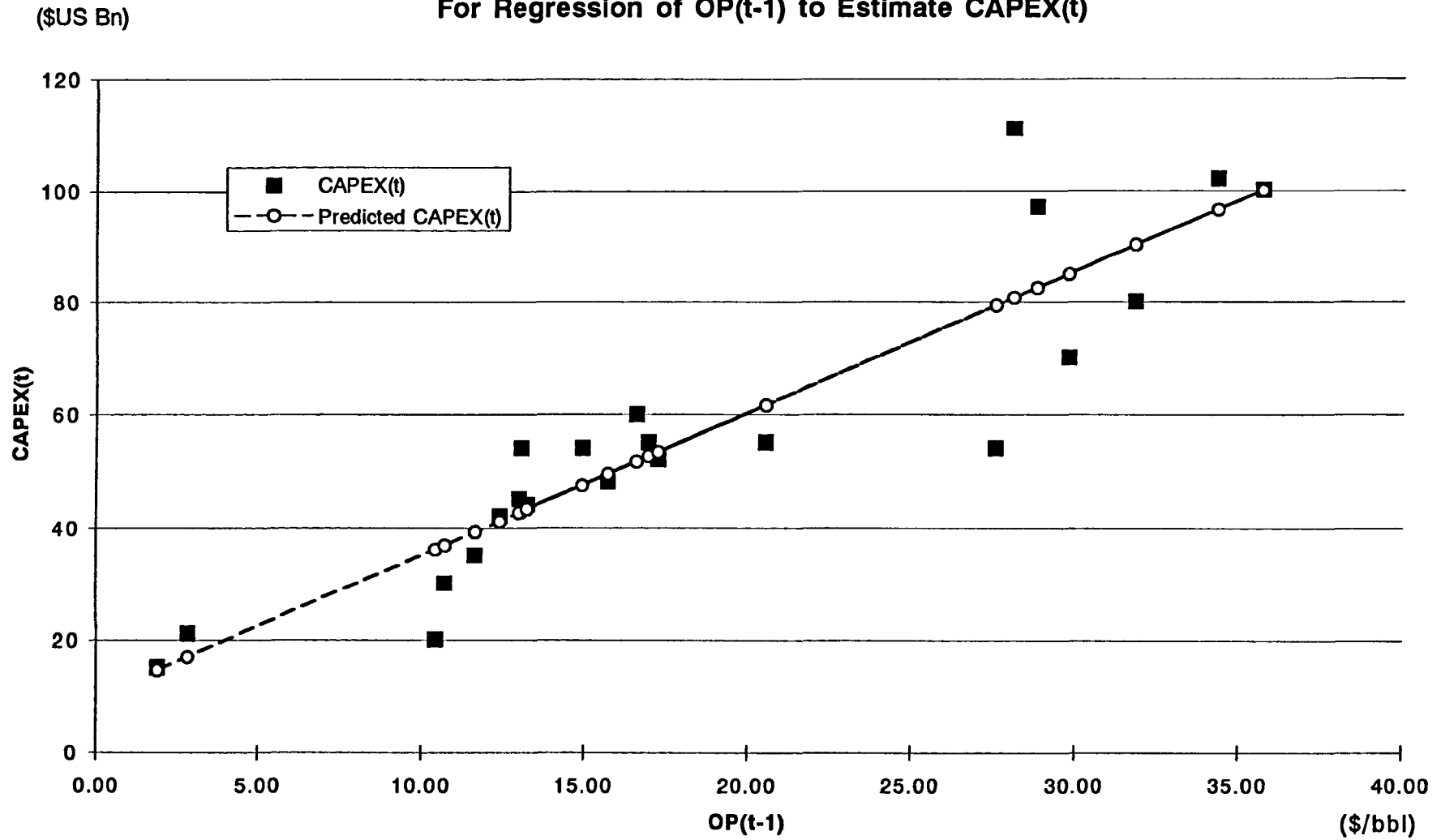


Regression of OP(t-1) to estimate CAPEX(t), 1973-1994.

Regression of $OP(t-1)$ to estimate $CAPEX(t)$, 1973-1994



OP(t-1) Line Fit Plot
For Regression of OP(t-1) to Estimate CAPEX(t)



Appendix C.2 Background Discussion on Least Squares Regression Analysis⁴

Regression analysis is concerned with establishing whether a relationship exists between an *explained* or what is sometimes referred to as a *dependent* variable (in our case, capital expenditure) and one or more *independent* variables (in our case, oil prices). This is denoted in mathematical terms as the following:

$$\text{Predicted } y = x_1 + x_2 + x_3 + x_4 + \dots \text{ or } y = f(x)$$

or in our case

$$\text{Predicted CAPEX}(t) = f(\text{OP}(t-1))$$

If there is only one independent variable then we refer to the analysis as a *Simple Regression*, if on the other hand there are two or more independent variables then we refer this technique as a *Multiple Regression*. If the equation permits us to exactly calculate y for given values of x_i then it is a *deterministic* or mathematical relationship. That is for known values of x_i precise values of y can be calculated with no error. If on the other hand we can only calculate possible values of y for given values of x_i then the regression analysis only establishes a *statistical* relationship. Our analysis comes within the ambit of the latter category. Recalling the earlier equations, we assume that $f(x)$ is a linear equation of x and that the relationship is also stochastic, that is, there is an error or disturbance u with a known probability distribution:

$$y = a + bx_i + u_i \text{ for } i = 1, 2, \dots, n$$

The $a + bx$ is the deterministic component and u is the random component where a and b are the regression coefficients. In our calculations, a is referred to as the Intercept and a regression coefficient is returned for the independent variable $\text{OP}_{(t-1)}$. The data set for our regression should be interpreted as follows:

$$\text{CAPEX}_{(t)} = a + b_{1t}\text{OP}_{(t-1)} + u \text{ for } t = 1973, 1974, \dots, 1994.$$

⁴ The following summary is based on G.S. Maddala, Introduction to Econometrics, New York, NY.: Macmillan Publishing Company, 1988); and Lila J. Truett and Dale B. Truett, Managerial Economics, 5th ed. (Cincinnati, OH.: South-Western College Publishing, 1995): pp 95-99, 110-135.

The inclusion of the random component u is intended to account for the unpredictable element of randomness in human responses; the effect of a large number of omitted variables; and as a measurement of error in y . Our objective is then to find the deterministic components of $CAPEX_{(t)}$ while minimising the error component. While it is not necessary for the lay person to understand all of the mechanics of a regression analysis, it is worth noting that the technique does make a number assumptions. Firstly, the random component has a normal or bell-shaped distribution; secondly, the mean or expected value of u_t is zero for all t (i.e. some may be positive, some negative, and others zero but the average is zero; thirdly the variance of u_t is equal to the standard deviation of $CAPEX_{(t)}$; fourthly, independence of u_t and u_s for $t \neq s$; and fifthly the independent variables are random variables with normal distribution.

Given historical levels of investment and oil prices we are trying to estimate the true relationship between the dependent variable CAPEX and independent variable OP. The least squares regression technique minimises the sum of the squared error terms (i.e. the difference between the calculated estimate and the data set) for each observation year when calculating the coefficients.

Having reviewed the basic aim of regression analysis, the rest of the discussion presented herein will provide a rudimentary basis for interpreting the results of our regression reproduced in Appendix C.1. For the actual mechanics of the regression analysis the interested reader is directed to either of the two books listed in the footnote 4 or any similar text.

As mentioned earlier the regression analysis returns a coefficient for each independent variable plus a number of other statistical measures which allow us to ascertain the quality of the regression. The results of our regression equation are as follows:

$$CAPEX_{(t)} = 2.526 * OP_{(t-1)} + 9.830$$

number of observations minus the number of parameters minus one (i.e. $22-1-1 = 20$). Quite simply the F-ratio is the mean the explained sum of squares divided by the mean of the residual sum of squares. In our example the F-ratio is equal to 91.397.

$$F = (12646.160 + 1) + (2767.294 + 20) = 91.397$$

Thus the higher the F-ratio, the better the quality of the regression because the greater the portion of the explained sum of squares in comparison with the residual sum of squares. Hitherto each of the reviewed quality checks occurs at the aggregate level, that is, we are testing the quality of the regression model as a whole, but this provides little analysis of the individual explanatory variables. For this purpose we must turn to the t-statistic.

The t-statistic provides a means of testing whether our estimate of the regression coefficient for a certain independent variable is significant or not. The t-statistic is calculated as the difference between our estimate of the coefficient b the actual value the coefficient β divided by the standard deviation (or square root of the variance) of our estimate of the coefficient.

$$t = (b - \beta) / \sigma_b$$

Since we do not actually know the true value of β (i.e. we have only calculated an estimate) we apply what is known as the null hypothesis, which tests the hypothesis that β is equal to zero. Therefore the equation for the t-statistic becomes:

$$t = b / \sigma_b$$

Referring to our results the t-statistic for the $OP_{(t-1)}$ regression coefficient is calculated as follows:

$$t = 2.526 / 0.264 = 9.560$$

A proper evaluation of the t-statistic requires a comparison with the corresponding values in a t-Distribution table. Each value of t given in such a table indicates the probability for n degrees of freedom that t will be greater than the value given, assuming the hypothesis used to calculate t is true. While the relevant parts of the table are not reproduced in the computer summary, by referring to such a table we find that for 20 degrees of freedom the

2.526 is the coefficient for $OP_{(t-1)}$ and 9.830 is the Intercept. The equation provides us with an estimate of the statistical relationship between capital expenditures and oil prices lagged by one year. We observe that CAPEX is a positive function of oil prices. That is, an increase in oil prices is accompanied by a corresponding increase in capital expenditures.

The three principal quality control checks are R-Square or Multiple R, F-ratio and the t-statistic. Recalling that the mechanics of Least Squares Regression minimises the sum of the squared error terms, we have the relationship total sum of squares (TSS) is equal to the explained sum of squares (ESS) plus the residual (RSS):

$$TSS = ESS + RSS$$

In our regression TSS is equal to 15413, RSS is equal to 2767 and therefore ESS is equal to 12646. In order to present this information as concisely as possible, the ratio between the explained sum of squares and total sum of squares, is calculated. This ratio is called the *coefficient of determination* or R-Square and must fall between 0 and 1.

$$R\text{-Square} = ESS / (RSS + ESS) = ESS / TSS$$

In our case the coefficient of determination is 0.820. The higher the coefficient of determination (i.e. the closer to one) the better the regression. That is, the independent variable (OP) is a good explanatory variable of CAPEX. If the coefficient of determination is close to zero, then very little of CAPEX is explained by the independent variable. In addition to R-Square, its square root is sometimes presented as well, otherwise known as the *correlation coefficient* or *Multiple R*. The correlation coefficient of our regression is 0.906.

The second quality control statistic is the F-ratio which is designed to test the significance of the explained sum of squares (ESS). The F-ratio is calculated according to the following formula:

$$F = (ESS/\text{number of degrees of freedom}) / (RSS/\text{number of degrees of freedom}),$$

where the number of degrees of freedom in the case of ESS is the number of parameters being used in the regression (i.e. 1) and in the case of RSS the difference between the

probability of t being greater than 2.086 is 2.5% *if the null hypothesis is true*.⁵ Such a probability statement is called a one-tailed test, that is it calculates the probability of t being greater or less than some number. If on the other hand if we wished to calculate the probability of t being outside some interval we could combine two one-tailed tests to calculate a two-tailed test by summing the probabilities. Thus, the probability of t being greater than 2.086 or t being less than -2.086 is 5% *if the null hypothesis is true*.

$$P(t > 2.086 \text{ or } t < -2.086) = 5\%$$

Conversely the probability of t being less than 2.086 or t being greater than -2.086 is 95% (i.e. one minus the previous probability) *if the null hypothesis is true*.

$$P(-2.086 < t < 2.086) = 95\%$$

In our regression the t -statistic for $OP_{(t-1)}$ is 9.560 based on the null hypothesis that β is zero. It is readily apparent that a t -statistic of 9.560 is well outside the range (-2.086 to 2.086) and therefore we can reasonably *reject the null hypothesis and accept the hypothesis that β is some number greater than zero*. Another way of stating this conclusion is that the regression coefficient for $OP_{(t-1)}$ is significantly greater than zero at the 2.5% level of significance. In essence this confirms that CAPEX is a positive function of $OP_{(t-1)}$ as latter's regression coefficient is not zero.

As a general rule of thumb the greater the absolute value of the t -statistic is from one the better the quality of the estimated regression coefficient whereas an absolute value of t -statistics between zero and one indicates an unreliable result. Finally the t -statistic can be combined with the coefficients and standard errors of the coefficients to determine a confidence interval. Thus, the 95% confidence interval for $OP_{(t-1)}$ is equal to

$$\begin{aligned} & \text{Coefficient} \pm \text{Standard Error} * (2.5\% \text{ point from the } t\text{-distribution with } 20 \text{ d.f.}) \\ & = 2.526 \pm 0.264 * (2.086) \\ & = 2.526 \pm 0.551 \\ & = (1.975 < OP_{(t-1)} < 3.078) \end{aligned}$$

⁵ Maddala (1988) *ibid* p 460.

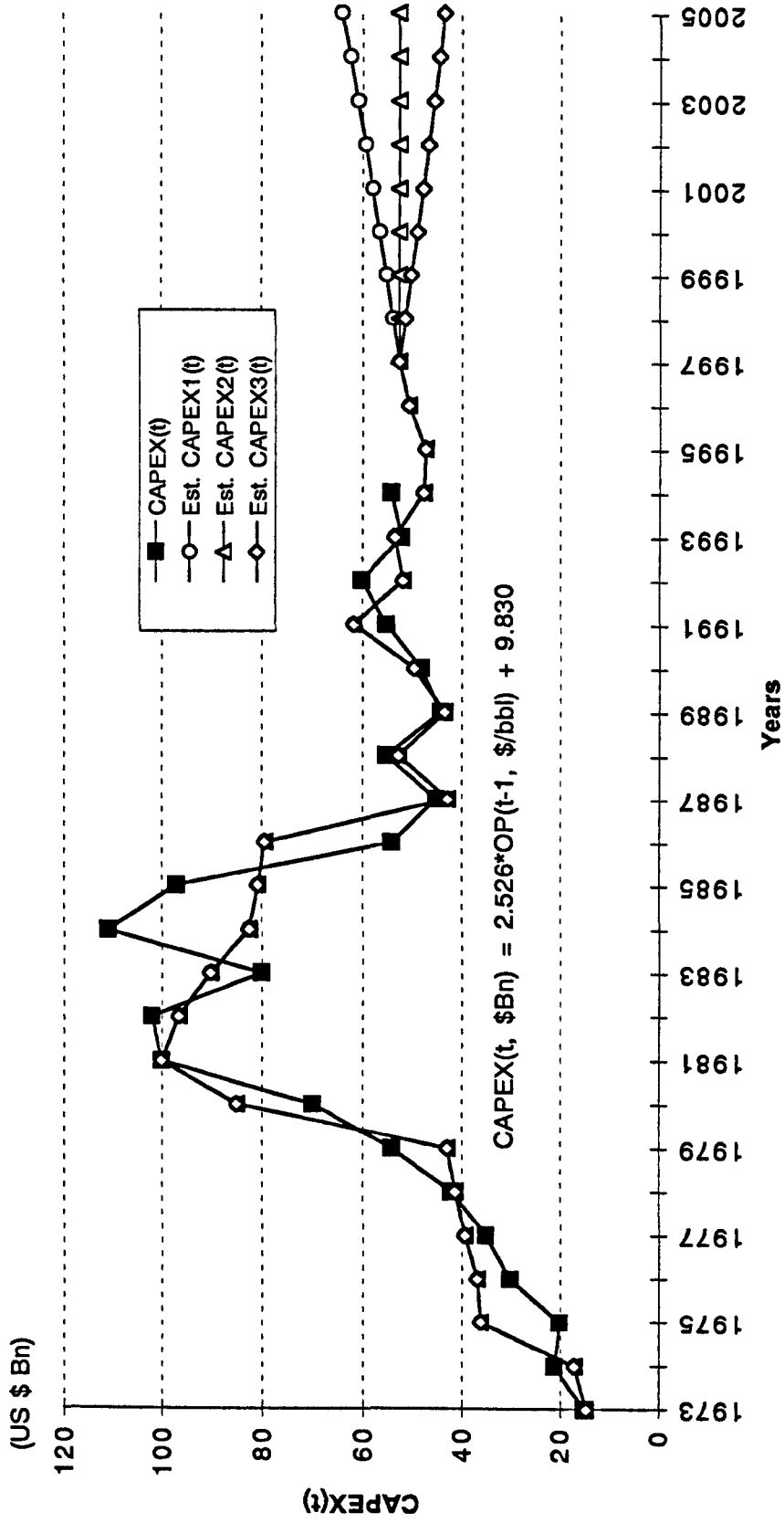
By examining the t-statistics for our regression we can assert that quality of the oil price coefficient is very good and the quality of the intercept is only moderate.

Having analysed the various statistical quality control checks, the ultimate test for any regression analysis is to assess whether the mathematical equation makes sense. Are you able to explain the result? Is there an underlying story which supports the equation? Or do counter-intuitive results remain which cannot be rationally explained? If the latter is the case perhaps the data set needs to be carefully examined for errors, or maybe the model needs to be refined by adding or subtracting additional independent variables. Quality control checks notwithstanding, a perfect statistical relationship which cannot be rationally explained is a non-result. For instance, a regression analysis of upstream oil and gas capital expenditures against the consumption of strawberries and cream at Wimbledon each year may produce a mathematically sound result, but it does little to advance our understanding of the true factors IOCs take into consideration when determining their capital expenditure budgets. For this reason the final check of any regression analysis is the existence of a plausible and rational story which supports the mathematical result.

Appendix C.3 CAPEX Forecast Based on Regression Analysis

CAPEX(t, \$Bn) = 2.526*OP(t-1, \$/bbl) + 9.830		Scenario 1: Oil Price Increase of 5% after 1996		Scenario 2: Constant Oil Price after 1996		Scenario 3: Oil Price Decrease of 5% after 1996	
Year	Capital Expenditure (\$US Bn)	Oil Prices (\$US)	Regression of Capital Expenditure (\$US Bn)	Oil Prices (\$US)	Regression of Capital Expenditure (\$US Bn)	Oil Prices (\$US)	Regression of Capital Expenditure (\$US Bn)
YEAR(t)	CAPEX(t)	OP(t)	Est. CAPEX1(t)	OP(t)	Est. CAPEX2(t)	OP(t)	Est. CAPEX3(t)
1972	10	1.90		1.90		1.90	
1973	15	2.83	14.63	2.83	14.63	2.83	14.63
1974	21	10.41	16.98	10.41	16.98	10.41	16.98
1975	20	10.70	36.13	10.70	36.13	10.70	36.13
1976	30	11.63	36.86	11.63	36.86	11.63	36.86
1977	35	12.38	39.21	12.38	39.21	12.38	39.21
1978	42	13.03	41.10	13.03	41.10	13.03	41.10
1979	54	29.75	42.74	29.75	42.74	29.75	42.74
1980	70	35.69	84.98	35.69	84.98	35.69	84.98
1981	100	34.32	99.98	34.32	99.98	34.32	99.98
1982	102	31.80	96.52	31.80	96.52	31.80	96.52
1983	80	28.78	90.16	28.78	90.16	28.78	90.16
1984	111	28.07	82.53	28.07	82.53	28.07	82.53
1985	97	27.53	80.73	27.53	80.73	27.53	80.73
1986	54	12.97	79.37	12.97	79.37	12.97	79.37
1987	45	16.92	42.59	16.92	42.59	16.92	42.59
1988	55	13.22	52.57	13.22	52.57	13.22	52.57
1989	44	15.69	43.22	15.69	43.22	15.69	43.22
1990	48	20.50	49.46	20.50	49.46	20.50	49.46
1991	55	16.56	61.61	16.56	61.61	16.56	61.61
1992	60	17.21	51.66	17.21	51.66	17.21	51.66
1993	52	14.90	53.30	14.90	53.30	14.90	53.30
1994	54	14.76	47.47	14.76	47.47	14.76	47.47
1995		16.09	47.11	16.09	47.11	16.09	47.11
1996		16.89	50.47	16.89	50.47	16.89	50.47
1997		17.40	52.49	16.89	52.49	16.38	52.49
1998		17.92	53.77	16.89	52.49	15.89	51.21
1999		18.46	55.09	16.89	52.49	15.42	49.97
2000		19.01	56.45	16.89	52.49	14.95	48.77
2001		19.58	57.85	16.89	52.49	14.50	47.60
2002		20.17	59.29	16.89	52.49	14.07	46.47
2003		20.77	60.77	16.89	52.49	13.65	45.37
2004		21.40	62.30	16.89	52.49	13.24	44.30
2005		22.04	63.88	16.89	52.49	12.84	43.27
Sum Total (1995 - 2005) =			619.49		570.03		527.04
Average per year =			56.32		51.82		47.91

Estimated Upstream Oil & Gas Capital Expenditures



Appendix D. Official Sources of Financing for Oil and Gas Projects

Appendix D.1 IBRD General Terms and Conditions: §9.03 — Negative Pledge

Section 9.03 Negative Pledge⁶

(a) It is the policy of the Bank, in making loans to, or with the guarantee of, its members not to seek, in normal circumstances, special security from the member concerned but to ensure that no other external debt shall have priority over its loans in the allocation, realisation or distribution of foreign exchange held under the control or for the benefit of such member.

(i) To that end, if any lien shall be created on any public assets (as hereinafter defined), as security for any external debt, which will or might result in a priority for the benefit of the creditor of such external debt in the allocation, realisation or distribution of foreign exchange, such lien shall, unless the Bank shall otherwise agree, *ipso facto* and at no cost to the Bank, equally and rateably secure the principal of, and interest and other charges on, the Loan, and the member of the Bank which is the Borrower or the Guarantor, in creating or permitting the creation of such lien, shall make express provision to that effect; provided, however, that if for any constitutional or other legal reason such provision cannot be made with respect to any lien created on assets of any of its political or administrative subdivisions, such member shall promptly and at no cost to the Bank secure the principal of, and interest and other charges on, the Loan by an equivalent lien on other public assets satisfactory to the Bank.

(ii) As used in this paragraph, the term 'public assets' means assets of such member, of any political or administrative subdivision thereof and of any entity owned or controlled by, or operating for the account or benefit of, such member or any such subdivisions, including gold and foreign exchange assets held by any institution performing the functions of a central bank or exchange stabilisation fund, or similar functions, for such member.

(b) The borrower which is not a member of the Bank undertakes that, except as the Bank shall otherwise agree:

(i) if such Borrower shall create any lien on any of its assets as security for any debt, such lien will equally and rateably secure the payment of the principal of, and interest and other charges on, the Loan and in the creation of any such lien express provision will be made to that effect, at no cost to the Bank; and

(ii) if any statutory lien shall be created on any assets of such Borrower as security for any debt, such Borrower shall grant at not cost to the Bank, an equivalent lien satisfactory to the Bank to secure the payment of the principal of, and interest and other charges on, the Loan.

(c) The foregoing provisions of this Section shall not apply to:

(i) any lien created on property, at the time of purchase thereof, solely as security for the payment of the purchase price of such property or as

D.3

security for the payment of debt incurred for the purpose of financing the purchase of such property; or

(ii) any lien arising in the ordinary course of banking transactions and securing a debt maturing not more than one year after the date on which it is originally incurred.

Appendix D.2 EBRD Standard Terms and Conditions: §5.01 — Negative Pledge

Section 5.01 Negative Pledge⁷

(a) If the Borrower or the Guarantor is a member, the member undertakes to ensure that no other external debt of the member shall have priority over the Loan in the allocation, realisation or distribution of foreign exchange held under the control or for the benefit of the member. If any lien shall be created on any public assets as security for any external debt which will or might result in a priority for the benefit of the creditor of such external debt in the allocation, realisation or distribution of foreign exchange, such lien shall, unless the Bank shall otherwise agree, *ipso facto*, and at no cost to the Bank, equally and rateably secure the principal of, and interest and other charges on, the Loan, and the member, in creating or permitting the creation of such lien, shall make express provision to that effect; provided, however, that if for any constitutional or other legal reason such provision cannot be made with respect to any lien created on assets of any of its political or administrative subdivisions, the member shall promptly and at no cost to the Bank secure the principal of, and interest and other charges on, the Loan by an equivalent lien on other public assets satisfactory to the Bank.

(b) If the Borrower is not a member, the Borrower undertakes that, except as the Bank shall otherwise agree:

(i) if the Borrower creates any lien on any of its assets as security for any debt, such lien will equally and rateably secure the payment of the principal amount of, and interest and other charges on, the Loan, and in the creation of any such lien express provision will be made to that effect, at no cost to the Bank; and

(ii) if any statutory lien is created on any assets of the Borrower as security for any debt, the Borrower shall grant at no cost to the Bank and equivalent lien satisfactory to the Bank to secure the payment of the principal amount of, and interest and other charges on, the Loan.

(c) The foregoing undertakings shall not apply to:

(i) any lien created on property, at the time of purchase thereof, solely as security for the payment of the purchase price of that property or as security for the payment of debt incurred for the purpose of financing the purchase of such property; and

(ii) any lien arising in the ordinary course of banking transactions and securing a debt not maturing not more than one year after its date.

⁷ EBRD Standard Terms and Conditions Applicable to Loan and Guarantee Agreements for the Banks Public Sector Operations, §5.01 (Oct., 1993).

Appendix D.3 World Bank Oil and Gas Financing in Europe & Central Asia

Appendix D.3.1 Confirmed World Bank Oil and Gas Financing in Europe & Central Asia

Project Name	Country of Operation	Recipients	Project Description	Date Approved	Date Signed	Total Project Investment \$US MM	Total Official Financing \$US MM	WB Loan \$US MM	Official External Financing \$US MM	Project Status	Comments
1st Oil Rehabilitation Project (LOAN No. 3623 RU)	Russia	Kogalymneftegas, Purneftegas, & Varyeganneftegas	To support the import of essential goods & services to boost existing oil-production in Western Siberia; Peak incremental production to be 12MMtpy (i.e. 3% increase in national output) ~ \$1.5 Bn per year in revenue; 1300 workovers & 1000 km of pipeline.	Jun-93	Aug-93	990.3	821.3	610.0	211.3	Board Approved 17Jun.'93; Signed 12Aug.'93; Disbursements to start Nov.'94; Reported on 2Aug.'96 that Kogalymneftegas would not take up remaining \$130 MM of loan from WB and Purneftegas refused \$80 MM of EBRD loan	EBRD-\$174.3 MM Loan; Gov't Netherlands-\$6 MM Loan; Gov't Russia-\$31 MM Loan; Companies to contribute \$169 MM; Purneftegas to rx (\$174.3 + \$37 MM); Kogalymneftegas to rx \$272 MM; Varyeganneftegas to rx \$170 MM; WB Maturities, 1999/2010; Irate CIRI
Petroleum Sector Rehabilitation Project (LOAN No. 3723 RO)	Romania	Petrom, Romgaz, Corpet, National Agency for Mineral Resources	Support the Government's petroleum sector restructuring strategy; Promote private investment; Improve institutional capabilities; Establish efficient & commercially acceptable regulatory framework for petroleum sector; Replace 1000 km of pipeline.	Apr-94	Jun-94	345.6	228.8	175.6	53.2	Board Approved 5Apr.'94; Signed 1Jun.'94; Gov't ratified in Nov. '94; Disbursing as of 2nd qtr.'95	Cofinancing is expected from the EIB - \$51.2 MM, EU's PHARE - \$2 MM, Maturities 1999/2014; May '95 reported Petrom to rx \$35 MM of WB's loan to purchase equipment
Petroleum Technical Assistance Project (Project ID 7KAZPA003)	Kazakhstan	Government of Kazakhstan	Technical Assistance provided to help government strengthen the capacity of key petroleum subsector agencies to attract FDI, promote efficiency & long term viability of the petroleum industry, and formulate sound organisational strategies.	Jun-94	?	19.6	17.5	15.7	1.8	Board Approved 2Jun.'94;...	WB - \$15.7 MM Loan; Maturities 1999/2011 (i.e. 17 year loan with 5 year grace period); Gov't Kazakhstan - \$1.8 MM
Zsana NG Field	Hungary	MOL	Construction of underground natural gas storage at a depleted reservoir; Will increase Hungary's natural gas storage capacity from 1.6 Bcm to 2.4 Bcm.	Jan-95	?	69.0	69.0	34.0	35.0	Board Approved 2Jan.'95;...	EBRD - \$35 MM Loan; Syndicate of 4 Commercial Banks - \$20 MM
Komi Oil Spill Cleanup	Russia	Komineft, AES(Australian) & Hartec(US) JV	Emergency package to help clean-up oil spilled in the autumn of 1994. Western JV of AES/Hartec is the WB's recommended clean-up group; AES/Hartec will get \$45 MM; \$55 MM will be used to replace a pipeline.	Apr-95	Apr-95	140.0	124.0	99.0	25.0	Board Approved 7Apr.'95; Signed 25Apr.'95; Disbursing...	WB- \$99 MM Loan; Maturities 2000/2012 (i.e. 17 year loan with 5 year grace period); EBRD - \$25 MM Loan; Komineft - \$16 MM
Petroleum Technical Assistance Project	Azerbaijan	Government of Azerbaijan, SOCAR	IDA Loan to finance advisory services to set-up a program to encourage private investment in Azerbaijan's oil industry and provide technical assistance for restructuring the offshore Guneshli oil field; including improved underground NG storage facilities	Apr-95	?	22.9	20.8	20.8	0.0	Board Approved 20Apr.'95;...	WB - \$20 MM Loan; Maturities 2005/2029 (i.e. for 35 years @ 0.75% annually with 10 year grace period);

Project Name	Country of Operation	Recipients	Project Description	Date Approved	Date Signed	Total Project Investment \$US MM	Total Official Financing \$US MM	WB Loan \$US MM	Official External Financing \$US MM	Project Status	Comments
NG Networks	Russia	Nizhgorodoblaz	Installation of energy saving equipment for the local natural gas network of 10 Russian cities; Could save 80 Bcm in natural gas consumption annually; Includes technical and planning assistance.	May-95	?	131.4	106.5	106.5	0.0	Board Approved 1May'95;...	WB - \$106.50 MM Loan; Maturities 2000/2012 (i.e. for 17 years with 5 year grace period)
2nd Oil Rehabilitation Project (LOAN No. 3788 RU) / (Project ID 7RUSPAD04 / RUPA08805)	Russia	Megionneftegaz, Tomakneft, & Yuganskneftegaz	Slow rate of oil production decline in Western Siberia; Transfer Int'l. technical, env't'l. & managerial practice; Promote efficient & sustainable use of the country's petroleum reserves; Incremental production to be 6.3 MMtpy = \$900 MM /year revenue.	Jun-95	?	690.0	600.0	600.0	0.0	Board Approved ; Russian Gov't endorsed in Mar.'95; Final WB Approval on 6Jun.'95;...	World Bank - \$600 MM Loan (increased from original plan of \$500); Maturities 2000/2012 (i.e. 17 years with 5 year grace period); Rate=Variable Interest Rate = 7.09%(Jun.'95); Total project cost = \$890 MM, \$775 MM in hard currency; Sov. Guar. is req'd.
Total \$US Millions						2626.0	1987.9	1661.6	326.3	Total Financing	IBRD
% of the Total						100.00%	75.62%	63.21%	12.41%	Multiplier = 1.3	Multiplier = 1.6

Sources: WB Annual Reports; and <http://www.worldbank.org/80/html/tpd/Energy/IEEnpubls.html>

Appendix D.3.2 (Un)Confirmed World Bank Oil and Gas Financing in Europe & Central Asia

Project Name	Country of Operation	Recipients	Project Description	Date Approved	Date Signed	Total Project Investment \$US MM	Total Official Financing \$US MM	WB Loan \$US MM	Official External Financing \$US MM	Project Status	Comments
?	Belarus	Government of Belarus; Belaruseft	Provide Assistance to the Petroleum Sector;	?	?	?	25.0	25.0	0.0	In July '95 it was reported parties are in Discussion; Approval expected in Nov. or Dec.'95;...	
Moldova Energy Sector Reform Loan	Moldova	Government of Moldova; Moldovagas; Moldenergo	World Bank to supply \$10 MM credit to promote energy sector reform and energy efficiency; Includes establishing Moldovagas and Moldenergo as commercially-viable enterprises; Overhauling of the Chisinau I C-P plant; installing NG meters.	May-96		10.0	10.0	10.0	0.0	Approved May'98;...	
Uzen Oil Field Rehabilitation (Project ID 7KAZPA009)	Kazakhstan	Uzenneft, Mangistanmunaigas	World Bank would help finance the 1st phase of a 5 year rehabilitation programme costing \$1.3 Bn; Includes rehabilitation of 260 producing & 120 injector wells, construction of oil processing & water injection facilities, water pipelines & pumps.	Jul-96	?	220.0	109.0	109.0	0.0	Not Yet Approved;...	Uzenneft and Mangistanmunaigas expected to provide \$70 MM
Russia-Petroleum JV (Project ID 7RUSPA006)	Russia	Yuganskneftegas JSC, Amoco	JV between Yuganskneftegas and Amoco to develop the North Priobskoye field; Peak production of 400,000 bpd around 2005-2010 and will last for 20 years; economic life of 45 years with CAPEX \$22 Bn unescalated	?	?	3200.0	500.0	500.0	0.0	Board Considering as of Dec. '94 very premature, projected board date July 1995;...	Total Project Cost is \$22 Bn, but initial 1st phase financing is \$3.2 Bn of which \$2 Bn from cash flow in 4-5th years, \$800 MM from Amoco, and \$600 MM from Yuganskneftegas(YNG) of which WB would contribute \$500 MM
Turkmenistan Oil & Gas Sector Project	Turkmenistan	Government of Turkmenistan		?	?	?	?	?	?	Proposal	

Appendix D.4 IFC Oil and Gas Financing

Appendix D.4.1 Confirmed IFC Oil and Gas Financing

Project Name	Country of Operation	Equity Investors	Project Description	Date Approved	Total Project Investment \$US MM	Total Financing \$US MM	IFC Loan \$US MM	IFC Quasi-Equity \$US MM	External Financing \$US MM	Project Status	Comments
Polar Lights JV	Russia	Conoco and Arkangelskgeologia	Development of Ardalin complex in the Timan-Pechora region; Involves drilling 25 wells; construction of a 36-mile pipeline and production facilities; Total expected production is 10.9 MMT (80 MMbbls) which should generate \$1.36 Bn in revenue.	1993-FY	330.00	200.0	60.0	0.0	140.0	Board Approved; Signed; and Disbursing	EBRD - \$90 MM, OPIC - \$50 MM
Vasyugan Services JV	Russia	Canadian Fracmaster, Tomskneftegaz and Vasyuganneftegaz	Workovers in six fields in the Tomsk region; Well stimulation estimated to continue for 10 to 15 years.	1993-FY	37.10	25.5	10.0	1.5	14.0	Board Approved; Signed; and Disbursing	EBRD - \$9 MM, IMB - \$5 MM
Amoco Poland Petroleum Company	Poland	Amoco Poland Petroleum Company	Evaluate coal bed methane gas resources in the Upper Silesian Basin.	1994-FY	88.50	8.7	0.0	8.7	0.0	Board Approved; Signed; and Disbursing	
Total \$US Millions					453.60	234.2	70.0	10.2	154.0	Total Financing Multiplier =	IFC Multiplier =
										1.9	5.7
% of the Total					100%	51.63%	15.43%	2.25%	33.95%	0.9 to 1	4.7 to 1
Kazgerminal JV	Kazakhstan	Veba Oel AG, Erdol Erdgas Gommern and Yuzhkazneftegaz	Develop Akshabulak Oil field in central Kazakhstan; Production is to start in 1996 with peak production of 19,000 bopd in 1988.	1994-FY	296.40	57.5	40.0	10.0	7.5	Board Approved 29Jun.'94; <u>Never Signed!</u>	Apparently Veba <u>chose not to use</u> the IFC loan due to the project's economic unfeasibility in an uncertain political climate in Kazakhstan.

Appendix D.5 EBRD Oil and Gas Financing

Appendix D.5.1 Confirmed EBRD Oil and Gas Financing

Project Name	Country of Operation	Equity Investors	Project Description	Date Approved	Date Signed	Date Fully Disbursed	Total Project Investment US \$MM	Total Official Financing \$US MM	EBRD Loan \$US MM	EBRD Equity \$US MM	Official External Financing \$US MM	Project Status	Comments
Parker Drilling Company	USSR (Russia)	Parker Drilling Company (US)	A \$12.4 MM loan to finance the construction and operation of 3 drilling rigs by a company to be formed as a wholly-owned subsidiary of Parker Drilling Company (US); Rigs will operate under contract to the White Nights JV.	26-Nov-91	?	?	16.8	12.4	12.4	0.0	0.0	Board Approved; Signed;...	
Petroleum Pilot Modernisation	Romania	?	To improve oil production operations; establish foundation for restructuring and modernisation.	29-Jun-92	14-Sep-92	?	66.0	56.5	27.5	0.0	29.0	Board Approved; Signed;...	WB is to reported to be providing \$29 MM Loan; Unconfirmed May'95 Approval
Samotlor Services JV	Russia	Pan-Canadian, Canadian Fracmaster and Samotlorneft	Estimated 10-15 years of workovers in Samotlor field in Western Siberia; Loan used to purchase equipment and supplies for workovers.	17-Nov-92	?	1994	80.0	10.0	10.0	0.0	0.0	Board Approved; Signed; and Fully Disbursed by 13 July '94	EBRD is Sole Lender - \$10 MM Loan
Chernogorskaya JV	Russia	Andermann Smith, St. Mary Land & Expl., Itchu and Chernogoroneft	Greenfield development involving the drilling of 180 oil wells and construction of production facilities in the Tyumen Oblast; 85MMbbls barrels of reserves.	15-Dec-92	?	?	282.6	70.0	35.0	0.0	35.0	Board Approved; Signed; and Disbursing as of Feb. '94	EBRD is lead arranger; EBRD - \$35MM Loan; of which Dresdner Bank (Germany) - \$9.75 MM under B-loan structure; OPIC - \$35MM Loan with US EXIM - \$35 MM Guarantee (?)
Vasyugan Services JV	Russia	Canadian Fracmaster, Tomskneftegaz and Vasyuganeftegaz	Workovers in six fields in the Tomsk region; Well stimulation estimated to continue for 10 to 15 years.	15-Dec-92	?	1994	37.1	24.5	9.0	0.0	15.5	Board Approved; Signed; and Fully Disbursed as of Mar. '94	EBRD is Lead Arranger; EBRD - \$23MM Loan; IFC - \$10.5MM, and International Moscow Bank \$3MM (both parallel tenders)
Oil and Gas Emergency Loan	Russia	Nizhnevartovsk-neftegaz	Workover of an estimated 600 shut in fields in the Samotlor field	11-Jan-93	?	1994	60.0	60.0	60.0	0.0	0.0	Board Approved; Signed Dec. '94; and not Disbursing as of Jun. '95	Will seek to sell participation
Polar Lights JV	Russia	Conoco Inc. and Arkhangelskgeologia	Development of the Ardaia complex in the Timan-Pechora region; involves drilling 25 wells, construction of a 36-mile pipeline and production facilities; Total expected production is 10.9 MMt (80 MMbbls) which should generate \$1.36 Bn in revenue.	8-Feb-93	13-Sep-93	1994	320.0	200.0	90.0	0.0	110.0	Board Approved; Signed; and Fully Disbursed as of Feb. '94	EBRD is Lead Arranger; EBRD - \$90MM loan; IFC - \$80MM loan; & OPIC - \$50MM; project cost is \$320MM
West Siberia Oil and Gas Fields Rehabilitation	Russia	Pumeftegaz	To assist general repair of oil wells, pipelines, and encourage legislative and commercial reforms to aid private investment; Includes 300 workovers, training and ecological monitoring service; incremental oil production will be approximately 2 MMtpy.	24-May-93	6-Aug-94	?	211.3	190.3	174.3	0.0	16.0	Board Approved; Signed; and Disbursing as of Jun. '95; Aug. '96 reported that Pumeftegaz refused \$80 MM of the credit;...	12 Year Loan, @ (LIBOR+) Nominal rate = 4.5%, with 3 year grace period. Government of Netherlands \$8MM Loan; and a \$10MM Loan from another source

Project Name	Country of Operation	Equity Investors	Project Description	Date Approved	Date Signed	Date Fully Disbursed	Total Project Investment US \$MM	Total Official Financing US \$MM	EBRD Loan US \$MM	EBRD Equity US \$MM	Official External Financing US \$MM	Project Status	Comments
Komi Arctic Oil	Russia	British Gas, EBRD, Ukhaneftgasgeologia and Kominft; Gulf Canada has withdrawn	Second phase development of oil field in Komi Republic; Drilling and construction of gas injection, gathering system and central processing plant.	26-Jul-93	3-Mar-94	?	320.0	80.0	80.0	20.0	0.0	Board Approved, Equity & Loan Portion Signed; As of Jun.'95 loan portion was disbursing; As of Jan.'96 half disbursed	EBRD Sole Lender & Investor
Varust	Russia	Vardinoyannals Group, Rosneftproduct, Krasnodarneftproduct and Tuapse Oil Base	Construction of a 50,000 tpy waste lube-oil re-processing plant in Armavir, the Krasnodar Region, Russia.	10-Jan-94	?	?	80.0	12.0	12.0	0.0	0.0	Board Approved; Signed;...	
Slovnaft a.s. Loan	Slovakia	Slovnaft a.s. Equity	Construction, modernisation and expansion of Slovnaft's petrol retail service station network.	18-Oct-94	8-Dec-94	10-Jul-95	425.0	59.0	0.0	59.0	0.0	Board Approved; Signed;...	PaineWebber was lead mgr for issue; the proceeds of the offering which represents 20% of the company's capital will be used to install a heavy petroleum residuals upgrading complex at the Bratislava refinery
Zsena Underground Gas Storage	Hungary	Magyar Olaj-és Gázipari Rt. (MOL)	Construction of underground storage at a depleted field. Will increase Hungary's total NG storage from 1.8 Bcm to 2.4 Bcm. Should be completed by mid-1995.	15-Nov-94	30-Dec-94	?	32.0	10.5	10.5	0.0	0.0	Board Approved; Signed;...	
Slovnaft a.s. Equity	Slovak Republic	Slovnaft a.s. Equity, EBRD[10.5%]; and State retains[65%]	To facilitate the company's continued privatisation & international \$112 MM global share offering; on 11 July 95 it was reported that EBRD took a \$59 MM stake (i.e. 10.5%); making the EBRD the company's largest foreign shareholder	13-Dec-94	?	?	53.5	30.0	30.0	0.0	0.0	Board Approved; Signed; and Disbursing as of Jun.'95	Gov't agreed to provide non financial guarantees on state's influence over Slovnaft. First EBRD project with an industrial company without a Western Partner.
Slovenski Plinovodi	Slovenia	Construzioni Dondi	Construction of natural gas distribution systems in 4 municipalities of Slovenia under concession arrangements	24-Jan-95	25-Jul-95	?	89.0	89.0	35.0	0.0	34.0	Board Approved; Signed; and Disbursing as of Jun.'95	World Bank - \$ 34MM; and Syndicate of 4 Commercial Banks - \$20 MM Loan
Dzhudzhutest Oil Terminal	Moldova	Technovax (Greece) [49%] and Tiras Petrol (Moldova) [51%]	Construction of an 2.1 MMtpy oil terminal on the Danube, thus allowing landing of crude from the Middle East; At present 90% of the country's oil resources are delivered by rail.	Apr-95	?	?	36.4	19.4	16.5	2.5	0.4	Board Approved;...	\$375,000 supplied by EU for the FS; Greek Banks — \$9 MM Loan; Technovax — \$5 MM; Tiras Petrol — \$5 MM
Komi Oil Spill Clean-up	Russia	Kominft, AES(Australian) and Hartec(US) JV	Emergency package to help clean up oil spilled in the autumn of 1994; Western JV of AES/Hartec is the WB's recommended clean-up group; AES/Hartec will get \$45 MM, \$55 MM will be used to rehabilitate the Khariaga/Ussinak Pipeline.	7-Apr-95	May-95	?	140.0	124.0	25.0	0.0	99.0	Board Approved; Signed;...	EBRD - \$25MM Loan; World Bank - \$99MM Loan, Kominft will supply \$16 MM

Project Name	Country of Operation	Equity Investors	Project Description	Date Approved	Date Signed	Date Fully Disbursed	Total Project Investment US \$MM	Total Official Financing \$US MM	EBRD Loan \$US MM	EBRD Equity \$US MM	Official External Financing \$US MM	Project Status	Comments
Magma Oil Project — Siberian Oil Company — SINCO JV	Russia	Vanguard Petroleum (Australia) and Magma Oil Co.(Russia)	Development of the Yuzhnoye (62 MMbbls) and Ruf'Yeganskoye Fields in the Khanty-Mansiysk Aut. Okrug of Western Siberia	16-May-95	?	?	129.0	53.0	46.0	0.0	7.0	Board Approved;...	EBRD - \$46MM Loan, Eurobank - \$7MM Loan
Poltava Project	Ukraine	Poltava Petroleum Company: JIKX[49%]; PoltavaGazProm & State Property Fund the latter representing Poltavaneftogazgeologia[51%]	Accelerate development of the Ignatovskoye and Molchanovskoye fields. 1st phase expansion, costing \$32 MM, is expected to push daily production of natural gas to 1.3 MMcm and 1,700 tonnes of oil by Jun.'96.	4-Apr-95	26-Apr-95	?	32.0	8.0	8.0	0.0	0.0	Board Approved; Signed May 1995; First drawdown was in Apr.'96	EBRD's 1st private sector loan to Ukraine; Loan shall be repaid in 7 semi-annual installments starting 10th Dec. 1996 with interest charged at LIBOR (US) + 5%; Loan guaranteed by subsidiary of JIKX Oil & Gas
Total \$US Millions							2416.7	1088.6	661.2	81.5	345.9	Total Financing Multiplier = 2.2	EBRD Multiplier = 3.3
% of the Total							100.00%	45.04%	27.36%	3.37%	14.31%	1.2 to 1	2.3 to 1

*As of June 1994 all projects with Western equity investors have not required sovereign guarantees.

Appendix D.5.2 (Un)Confirmed EBRD Oil and Gas Financing

Project Name	Country of Operation	Equity Investors	Project Description	Date Approved	Date Signed	Date Fully Disbursed	Total Project Investment US \$MM	Total Official Financing \$US MM	EBRD Loan \$US MM	EBRD Equity \$US MM	Official External Financing \$US MM	Project Status	Comments
Fergana Refinery Upgrade Feasibility Study	Uzbekistan	KBC Process Technology(UK)	In 1995 the EBRD fully funded a FS for an upgrade of the Fergana Refinery in Uzbekistan; Reported that EBRD may provide a \$70 MM credit towards the project.	N/A	N/A	N/A	190.0	140.0	70.0	0.0	70.0		EBRD — \$70 MM Loan; another \$70 MM to come from an ECA or another MLA
Gazprom MOU	Russia	Gazprom	The result of an EBRD/Gazprom commission study started in '93 by 13 consulting firms financed by gov'ts of CAN, FRA, UK, US, NOR, & NETHS; a \$3 Bn joint investment program to increase the reliability & efficiency of Russian NG supply for the years 1999-2000;	N/A	N/A	N/A	3000.0	?	?	0.0	?	July '95 Reported, Status Unknown	EBRD will cover 35% of the costs estimated to be \$500-700 MM per year of which \$200 MM has been agreed in an unsecured loan; [Unknown how Gazprom will finance the other 65%]; Final report due in Sept. '95.
Ryazan Oil Refinery Upgrade	Russia	Ryazan Oil Refinery	Credit to support an upgrade of the Ryazan Oil Refinery	N/A	N/A	N/A	850.0	?	?	?	?	Evaluating in '95	EBRD is apparently considering to extend credit, but is only expected to cover about half of the cost

Appendix D.6 US EXIMBANK Oil and Gas Financing

Appendix D.6.1 Confirmed US EXIMBANK Oil and Gas Financing

Country of Operation	Obligor	Guarantor	Principle Supplier	Project Description	Date Approved	Estimated Project Investment \$US MM	USEXIM Loans \$US MM	USEXIM Guarantees \$US MM	Project Status	Comments
Russia	Gazprom	Bank of Foreign Trade of Russia	Caterpillar Inc.	Purchase of Construction Equipment	1993-FY	82.0	82.0	0.0	Board Approved; Signed;...	Sovereign Risk Transaction; Interest Rate = 5.93%
Russia	Chernogorneft, a subsidiary of SIDANCO	(None)	IRI International	Purchase of US oil drilling and production equipment to rehabilitate idle wells in the Tyumen region — in particular the Samotlor Oil Field; estimates that the 300 wells to be reactivated will produce 4 MMt in 5 years	1994-FY	282.6	0.0	43.7	Board Approved; Signed 28 Sept.'94; Credit Line Opened Mar.'96;...	Part of OGFA; Societe Generale of France is to supply the \$43.7 MM Loan over a 6 year period;
Russia	Nizhnekamsk-neftekhim	(None)	Leonard Engineering	Purchase of Storage Tanks & Related Equipment for an oil products terminal.	1994-FY	116.0	0.0	98.7	Board Approved; Not Signed;...	Part of OGFA
Russia	Nizhnevartovsk-neftegaz	(None)	IRI International	Purchase of US oil drilling equipment to support a well rehabilitation program.	1994-FY	286.0	0.0	286.3	Board Approved; Signed 27 Sept.'94;...	Part of OGFA; Commercial bank is CXC Inc., a subsidiary of Citicorp
Russia	Permnefteorgsintez, a subsidiary of LUKoil	(None)	Rosemount Inc., ABB Lumar Crest Inc.	Purchase of US manufactured Distribution Control System and equipment to reconstruct Permnefteorgsintez's refinery and minimize pollution.	1994-FY	102.0	0.0	98.0	Board Approved June 1994; Signed 7 Nov.'95;...	Part of OGFA; In 1994 project listed as guarantees for \$253.4 MM; In 1995 this was scaled back to \$98 MM guarantee for loans to be provided by Bank Paribas(France) and Westdeutsche Landesbank(Germany)
Russia	Tatneft, Alnetyevsk	(None)	Assorted Companies	Purchase of US oil drilling & production equipment to rehabilitate wells at the Romashkinskoye & Novoelekhnovskoye fields; Original Program scaled back; Under new \$84 MM loan, Societe Generale to be repaid by delivery of 3 MMt of oil to Total by 2002.	1994-FY	100.0	0.0	84.0	Board Approved; signed 28 Sept.'94; Renegotiated in late 1995; Signed Feb.'96;...	Part of OGFA; In Feb.'96 Societe Generale Bank signed a reduced loan of \$84 MM (i.e. instead of \$231 MM) because Tatneft unable to secure a range of tax concessions from Gov't
Russia	Gazprom			General facility for the purchase of US Goods and Equipment.	1995-FY	750.0	0.0	750.0	Preliminary Board Approval; MOU signed 9 Nov.'94;...	\$750 MM Credit Facility; MOU signed 9 Nov. 1994

Country of Operation	Obligor	Guarantor	Principle Supplier	Project Description	Date Approved	Estimated Project Investment \$US MM	USEXIM Loans \$US MM	USEXIM Guarantees \$US MM	Project Status	Comments
Russia	Nizhegorod-nefteorgsintez	(None)	Phillips Petroleum Company	Loan to buy equipment from Phillips Petroleum to upgrade Nizhny Novgorod Oil Refinery's polyethylene production and to boost throughput from 100,000 tpy to 350,000 tpy.	1995-FY	170.0	0.0	150.5	Board Approved; Signed 12 Sept.'95	Part of OGFA; Loan will be for 7 years
Russia	Tomskneft	(None)	Cooper Rolls, Inc. and Bateman Engineering	Purchase & construction of a gas compressor station.	1995-FY	109.0	0.0	69.0	Board Approved; Signed; Deal Closed; Disbursement begun...	Part of OGFA; USEXIM - \$89 MM Guaranteed; Israeli Foreign Trade Risks Corporation - \$21MM Guarantee & funded by Bank Hapoalim; \$19MM non-guaranteed portion provided 4 bank syndicate lead by Chase Manhattan; 1st OGFA deal to close!
Russia	Yaroslavlnefteorgsintez	(None)	Stone & Webster Engineering Corporation (US), Mitsui (Japan), Thyssen Rhinstahl Technip (Germany)	Upgrade and increase the capacity of the Yaroslavl Refinery; Original investment scaled back from \$505 MM to \$300 MM;	1995-FY	262.0	0.0	56.0	Board Approved, Signed 15 Aug.'95; Jun.'98 Final Agreement Reached;...	Part of OGFA; USEXIM - \$56MM Guarantee; JEXIM will contribute 85% of a \$237.5 MM loan — \$200 MM, the other 15% will come from Yaroslavlnefteorgsintez and MNB Bank;
Russia	Kond-Petroleum, a subsidiary of SIDANCO	(None)	Baker Hughes, Inc.	Purchase of US oil drilling and production equipment for well rehabilitation.	1995-FY	31.9	0.0	27.1	Board Approved; Not Signed;...	Part of OGFA
Russia	Komineft	(None)	Serck Baker, Inc.	Purchase of US oil drilling and production equipment for well rehabilitation.	1995-FY	86.3	0.0	73.3	Board Approved; Not Signed;...	Part of OGFA
Uzbekistan	National Bank for Foreign Economic Activity	Ministry of Finance	Dresser-Rand Company	Construction of a \$160 MM gas injection plant at the Kokdumalak Field; Designed to increase output of crude & condensate from 2 MMtpy to 4.5 MMtpy to 6.5 MMtpy; \$53 MM for Turbine Compressors; \$35 MM for Oil Refining Equipment	1995-FY	160.0	0.0	53.0	Board Approved;	Sovereign Risk Transaction; JEXIM to supply \$89 MM Loan

Country of Operation	Obligor	Guarantor	Principle Supplier	Project Description	Date Approved	Estimated Project Investment \$US MM	USEXIM Loans \$US MM	USEXIM Guarantees \$US MM	Project Status	Comments
Uzbekistan	National Bank for Foreign Economic Activity	Ministry of Finance	Dresser-Rand Company	Modernisation of the Uznette-pererabotka (formerly Fergana Oil Refinery); Work to be carried out by Mitsui (Japan) and Dresser-Rand and Company (US)	1995-FY	200.0	0.0	35.0	Board Approved;	Sovereign Risk Transaction; JEXIM is to supply a \$100-150 MM Loan, but this still has to be finalised
Lithuania	Butinge Terminal Stock Company	?	Flour Daniel	Construction of the Butinge Oil Terminal on the coast of the Baltic Sea; USEXIM approved a \$5.2 MM loan for engineering and design studies;	1996-FY	160.0	5.2	80.0	Board Approved in Oct.'95;...	EBRD also considering financing 20% of the costs for a 15% equity stake; On 29 Nov.'95 a \$5.19 MM Loan Agreement Signed to finance the engineering and design study
Total \$US Millions						2917.6	87.2	1882.6	US EXIMBANK Multiplier = 1.5 0.5 to 1	
% of the Total						100.00%	2.99%	64.52%		

Appendix D.6.2 (Un)Confirmed US EXIMBANK Oil and Gas Financing

Country of Operation	Obligor	Guarantor	Principle Supplier	Project Description	Date Approved	Estimated Project Investment \$US MM	USEXIM Loans \$US MM	USEXIM Guarantees \$US MM	Project Status	Comments
Russia	Angarsk-neftekhim	(None)	?	Modernisation of production facilities	N/A	400.0	?	?		
Russia	Khabarovsk Refinery	(None)	?	Refinery conversion	N/A	100.0	?	?		
Russia	Kirishinette-orgsintez	(None)	?	Conversion to oil-processing factory	N/A	640.0	?	?		
Russia	Oreknette-orgsintez	(None)	?	Construction of catalytic reforming plant	N/A	80.0	?	?		
Russia	Ryazan Refinery	(None)	?	Modernisation of production facilities	N/A	480.0	?	?		
Russia	Saratov Refinery	(None)	?	Construction of low pressure hydrocracking facility	N/A	110.0	?	?		
Russia	Yugansk-neftegaz	(None)	?	Oil well rehabilitation	N/A	267.0	?	?		
Russia	YUKOS	(None)	?	Conversion of Novokulbyshev Refinery	N/A	353.0	?	?		
Total \$US Millions						2430.0				

** Projects Listed by Russian MFE which are seeking USEXIM support **

Appendix D.7 Other ECA Oil and Gas Financing

Appendix D.7.1 Confirmed Other ECA Oil and Gas Financing

Country of Operation	Export Credit Agency	Commercial Banks	Obligor	Project Description	Date Approved	Total Project Investment \$US MM ¹	Total ECA Financing \$US MM	ECA Finance & Guarantees \$US MM	Other ECA Financing \$US MM	Project Status	Comments
Russia	HERMES (Germany)	German Banking Consortium led by Deutsche Bank AG (Germany)	Tyumen Regional Government	Tyument-1 Credit Barter Agreement; A \$588 MM credit for oil barter arrangement between the Tyumen Regional Government and Germany; oil deliveries are made to Germany via Veba Oel AG.	1993	588.0	588.0	588.0	0.0	Bilateral Trade Agreement signed Jan.'93; Sibneftebank and Deutsche Bank signed basic Agreement in Sept.'93, Oil delivery contract with Veba signed Nov.'93	On 7 Oct.'93 (Res. No. 1769) RF Gov't. granted Tyumen Oblast an export quota of 3 MMt (1 MMtpy) starting in 1993; 941,000 tonnes were shipped in '94 and 402,000 tonnes are to be delivered in '95
Russia	HERMES (Germany)	Consortium of Banks Led by Dresdner Bank (Germany)	Regional Government of Tatarstan [Tatneft]	Credit Line for \$50 MM established in Dec.'93; By Sept.'95 enabled Tatneft to start-up 11 new fields (total prod. 3.2 MMbbls with current rate 12,000 bpd)	1993	50.0	50.0	50.0	0.0	Board Approved; Signed Dec.'93; Disbursing...	
Russia	SACE (Italy)	Mediocredito Centrale (Italy), Banca Commercial (Italy), West Merchant Bank (UK)	[Gazprom]	Pipeline and compressor upgrading for Gazprom; SACE providing guarantees for 80% of project costs; Repayment from proceeds of 5.5 Bcm of natural gas deliveries to SNAM of Italy over 20 years beginning 1995; Payments by SNAM go to an escrow account	1993	2000.0	1815.0	1815.0	0.0	Board Approved; Signed; Disbursing;...	Signed Dec. 1993; 14 year & 6 month buyer credit; LIBOR + 1%; front end fees approx. 3/8% for commitments of \$75 MM;
Russia	EDC (Canada)	?	Bank of Foreign Trade of Russia [Onako]	Construction of a gas-processing plant in the Urals region of Orenburg; Onako has signed a \$82 MM deal with Canada's Thermo Design Engineering to supply equipment for the 1st \$150 MM stage of the \$360 MM project	1995	150.0	100.0	100.0	0.0	Unknown; Suspended (?);...	
Russia	JEXIM (Japan)	Mitsui (Japan)	[LUKOil]	Well Restoration, financing of equipment purchases, only 15% of equipment must come from Japanese suppliers (very liberal terms)	1995	700.0	700.0	700.0	0.0	Board Approved in Autumn '95; As of Apr.'96 still no progress due to tax situation	JEXIM requires long term export quotas; 5 year maturity, 2 year grace period (rate = 8%); LUKoil is not required to sell oil to Japan

Country of Operation	Export Credit Agency	Commercial Banks	Obligor	Project Description	Date Approved	Total Project Investment \$US MM ¹	Total ECA Financing \$US MM	ECA Finance & Guarantees \$US MM	Other ECA Financing \$US MM	Project Status	Comments
Russia	JEXIM (Japan)	Sumitomi (Japan)	[Yaroslavneft eorgsintez]	Refinery upgrade using US LOP technology to produce high octane gasoline and increase capacity of the Yaroslav Refinery; Germany-Japanese Consortium Thyssen Rheinstahl Technik GmbH and Mitsui will build the catalytic reforming unit.	1995	282.0	256.0	200.0	56.0	USEXIM portion approved and signed in Aug.'95; JEXIM portion approved in Nov.'95;	JEXIM's will contribute 85% of a \$234 MM loan — \$200MM; The other 15% will come from Yaroslavl Plant and MNB Bank; USEXIM - \$56 MM Guarantee;
Uzbekistan	JEXIM (Japan)	?	National Bank for Foreign Economic Activity	Modernisation of the Uznefte-pererabotka (formerly Fergana Oil Refinery); Work to be carried out by Mitsui (Japan) and Dresser-Rand and Company (US)	1995	200.0	185.0	150.0	35.0	USEXIM Portion Board Approved; JEXIM Portion still not approved as of end '95	USEXIM - \$35 MM Guarantee; JEXIM - (\$100 to150 MM) Loan
Uzbekistan	JEXIM (Japan)	?	National Bank for Foreign Economic Activity	Development of the Kokdumalak oil and gas condensate field; Estimated reserves 98.7 MMt of oil and 98.13 MMt of condensate.	1995	163.0	138.0	85.0	53.0	USEXIM Portion Approved; JEXIM Portion (?);...	JEXIM - \$85 MM Loan, USEXIM - \$53 MM Guarantee, Uzbekistan Gov't - \$25 MM
Russia	Turkish EXIM Bank (Turkey)	?	?	Zarubezneftegazstrol is the general contractor for a \$280 MM, 100,000 polypropylen facility at the Stavropol polymer plant in Budyonnovsk; Tekfen is part of a group of 20 contractors; John Brown(UK) has already supplied \$146 MM worth of equipment	1998	280.0	135.0	135.0	0.0	Umbrella Agreement reached; Negotiations ongoing;...	Part of the \$350MM loan agreement concluded by the Turkish EXIM Bank and Russia in mid-Dec.'95; Earlier work financed by RF MFE Credit and funds from Stavropol-nepolimerprodukt
Russia	Turkish EXIM Bank (Turkey)	?	?	FF Gov't intends to use \$55 MM to complete the upgrade of SiDANCO's Angarsk Petrochemicals Complex being carried out by Baytur of Turkey plus a number of other companies.	1998	70.0	55.0	55.0	0.0	Umbrella Agreement reached; Negotiations ongoing;...	Part of the \$350 MM loan agreement concluded by the Turkish EXIM Bank and Russia in mid-Dec.'95
Total \$US Millions						4483.0	3822.0	3678.0	144.0	Total ECA Financing Multiplier = 1.2	
% of the Total						100.00%	85.26%	82.04%	3.21%		

¹ Author's Best Estimate.

Appendix D.7.2 (Un)Confirmed Other ECA Oil and Gas Financing

Country of Operation	Export Credit Agency	Commercial Banks	Obligor	Project Description	Date Approved	Total Project Investment \$US MM ¹	Total ECA Financing \$US MM	ECA Finance & Guarantees \$US MM	Other ECA Financing \$US MM	Project Status	Comments
Russia	HERMES (Germany)	Consortium of Banks Led by Dresdner Bank (Germany)	Regional Government of Tatarstan [Tatneft]	Proposal for a new Credit Line of \$875 MM; German Agency for Reunification signed a trade & credit agreement with Tatarstan in Sept.'95; Assumed deal will be backed by HERMES.	1995	875.0	875.0	875.0	0.0	Board Approved; Signed Sept.'95; Negotiations Ongoing;...	
Russia	COFACE (France)	?	?	On 15 Feb. 1996 the Russian and French Governments signed five economic agreements including a \$500 MM credit for the oil industry; Individual projects not yet specified; COFACE will be involved	1996	600.0	500.0	500.0	0.0	Preliminary Agreement Signed Feb.'98;...	
Russia	HERMES (Germany)	German Banking Consortium led by Deutsche Bank AG (Germany)	Tyumen Regional Government	Tyumen-2 Credit Barter Agreement. A Second Barter Arrangement is under negotiation; Assumed it will be backed by HERMES	1996/97	?	?	?	0.0	Under Negotiation;...	

(Un)Confirmed Other ECA Oil and Gas Financing

Appendix D.8 OPIC Oil and Gas Financing

Appendix D.8.1 Confirmed OPIC Oil and Gas Financing

Project Name	Country of Operation	Investors or Contractors	Project Description	Date Approved	Total Project Investment \$US MM ¹	Total OPIC \$US MM	OPIC Loan/Guar \$US MM	OPIC Insurance \$US MM	Project Status	Comments
Chemogorskoye JV	Russia	Andermann/Smith, Chemogor-neft, Itochu	Oil Production — Greenfield development involving the drilling of 160 oil wells and construction of production facilities in the Tyumen Oblast.	1992-FY	282.6	7.0	0.0	7.0	Board Approved 30 Sept.'82; Operational;...	The project is expected to generate \$137 MM in US exports in the first 5 years
Polar Lights JV	Russia	Conoco Inc., (Arkhangel'skgeologia)	Development of the Ardaia complex in the Timan-Pechora region; Involves drilling 25 wells, construction of a 36-mile pipeline and production facilities; Total expected production is 10.9 MMt (80MMbbls) which should generate \$1.36 Bn in revenue.	1993-FY	330.0	50.0	50.0	0.0	Board Approved 3 May'93; Operational;...	EBRD - \$90MM, IFC - \$60MM; OPIC contribution is a loan guarantee; Polar Lights is to generate approximately \$147 MM in US exports during the construction period and 1st 5 years of production; <u>1st oil project in the FSU backed by OPIC Loan Guarantee</u>
Sutormin Well Restoration Project	Russia	Nabors International Inc. (Sutorminskneft)	Nabors International was sub-contracted to operate two well-workover rigs for Texaco's Sutormin well rehabilitation project; Project suspended in Summer of 1994.	1993-FY	Same Project as below	7.2	0.0	7.2	Board Approved; Operations began in Mar.'83; Production began in Jun.'93; Project Suspended Summer of '94	Expected to generate \$8.7 MM US exports; Project suspended by Texaco in summer of '94 as Sutorminskneft NGDU could not secure export quotas to support repayment.
Sutormin Well Restoration Project	Russia	Texaco International Operations Inc. (Sutorminskneft)	Texaco is under a service contract with Sutorminskneft to restore production to approximately 150 idle oil wells; Project suspended in Summer of 1994.	1993-FY	75.0	23.1	10.0	13.1	Board Approved; Operations began in Mar.'83; Production began in Jun.'93; Project Suspended Summer of '94	Texaco to be repaid from export revenues; If Sutorminskneft fails to pay Texaco for any reason other than performance OPIC will guarantee payment; Project suspended by Texaco in summer of '94 as Sutorminskneft NGDU could not secure export

Project Name	Country of Operation	Investors or Contractors	Project Description	Date Approved	Total Project Investment \$US MM ¹	Total OPIC \$US MM	OPIC Loan/Guar \$US MM	OPIC Insurance \$US MM	Project Status	Comments
Chernogorskoye JV	Russia	Andermann/Smith, Itochu, (Chernogorneft)	Oil Production — Greenfield development involving the drilling of 160 oil wells and construction of production facilities in the Tyumen Oblast.	1994-FY	Same Project as above	35.0	35.0	0.0	Board Approved Mar.'94;...	OPIC - \$35 MM Loan; whereby EBRD was lead arranger providing \$35 MM Loan of which Dresdner Bank (Germany) provide 8=\$8.75 MM under the B-Loan Structure
M-I Drilling Fluids' Barite Mill	Kazakhstan	M-I Drilling Fluids Company	Oil Service Project that involves building a barite grinding mill to produce drilling fluids.	1994-FY	2.7	2.7	0.0	2.7	Board Approved;...	
Permteq JV	Russia	Snyder Oil Corporation (Permteq)	JV to carry out E&P in Solikamsk Trough including 6 undeveloped fields with reserves of 100 MMbbls; Operational by end of '93; Phase 1 complete 25 existing wells costing \$22 MM; Plan to drill 400 wells in 10 years.	1994-FY	128.0	40.0	40.0	0.0	Board Approved;...	Disbursement to be over 3 years
Polar Lights JV	Russia	E.I. DuPont de Nemours & Company — i.e. Conoco, (Arkhangelskgeologia)	Development of Ardal complex in the Timan-Pechora region; involves drilling 25 wells, construction of a 36-mile pipeline and production facilities; Total expected production is 10.9 MMt (80MMbbls) which should generate \$1.36 Bn in revenue.	1994-FY	Same Project as above	200.0	0.0	200.0	Board Approved;...	
White Nights JV	Russia	Phibro Energy Production Inc. (Varyeganskneftegas)	JV to develop the West Varyeganskoye and Tagrinskoye Fields in Western Siberia.	1994-FY	80.0	20.0	0.0	20.0	Board Approved;...	
M-I Petrogas Services Romania JV	Romania	M-I Drilling Fluids, (Petrom), (Romgaz)	JV set-up in 1993 with capitalisation of \$3.8 MM to supply drilling fluids and technical services to JV partners; In Sept.'95 OPIC provided \$1.7 MM of FF for M-I Drilling Fluids.	1995-FY	3.8	1.7	0.0	1.7	Board Approved Sept.'95;...	
Total \$US Millions					902.1	386.6	135.0	251.6	Total OPIC Financing Multiplier = 2.3	
% of the Total					100.00%	42.86%	14.97%	27.89%		

¹Author's best estimate

APPLICABLE INVESTMENT FUNDS

Investment Fund or Project Name	Country of Operation	Investors or Contractors	Project Description	Date Approved	Total Project Investment \$US MM	Total OPIC \$US MM	OPIC Loan/Guar \$US MM	OPIC Insurance \$US MM	Project Status	Comments
First NIS Regional Fund LLC.	CIS & Baltic States		First NIS Regional Fund LLC.	1994-FY		20.0	20.0	0.0	Board Approved;...	
Russia Partners Company L.P.	Russia	PaineWebber	\$155 MM Russian direct investment fund which will invest in hard-currency or export production projects with an investment size of approx. \$2-15 MM per project; projects may be in the petroleum sector	1994-FY	155.0	37.5	37.5	0.0	Board Approved;...	\$37.5 MM - Loan Guarantee from OPIC, \$25 MM guarantee by Russian Government
NIS Major Projects Fund L.P.	Russia		NIS Major Projects Fund L.P.	1994-FY		225.0	225.0	0.0	Board Approved;...	
First NIS Regional Fund LLC.	CIS & Baltic States		First NIS Regional Fund LLC.	1995-FY		20.0	20.0	0.0	Board Approved;...	
UNOC JV	Russia	National Oil Well, Caterpillar, (Uralsmazavod)	NS Major Projects Fund L.P. will provide a loan of \$13.5 MM for the UNOC JV between National Oil Well, Caterpillar and Uralsmaz to assist in the production of oil well equipment.	1995-FY		13.5	13.5	0.0	Board Approved;...	This is part of the NIS Major Projects Fund L.P. for which OPIC has supplied \$225 MM of financing

Appendix D.8.2 Un(Confirmed) OPIC Oil and Gas Financing

Project Name	Country of Operation	Investors or Contractors	Project Description	Date Approved	Total Project Investment \$US MM ¹	Total OPIC \$US MM	OPIC Loan/Guar \$US MM	OPIC Insurance \$US MM	Project Status	Comments
Mertvyi Kultuk PSA	Kazakhstan	Oryx Energy Company	Mertvyi Kultuk Block PSA; Initial 4 year term with min. of \$10 MM expenditure plus possible extra expl. periods 3 & 2 years; Exxon farmed-in; Oryx is the operator for expl; Drilling expected in early 1998; JOA to follow if discovery is made	1996-FY	?	100.0	?	?	Unconfirmed	
Senaga JSC	Russia	Swift Energy Company	Senaga JSC to develop two oil fields with oil & condensate reserves of 500 MMbbls and 5.1 Tcf of natural gas;	1996-FY	425.0	165.0	?	?	Unconfirmed	

(Un)Confirmed OPIC Oil and Gas Financing

Appendix E. Political Risk Ranking of the World's Oil Reserves

Countries	Reserves End 1994 (Bn tonnes)	Reserves End 1994 (Bn bbls)	Reserves End 1994 % World Total	Cumulative Reserves End 1994 % World Total	Access By IOC's	Sept.'95 Euromoney Country Risk Ranking	Sept.'95 Euromoney Country Risk Rating
USA	3.8	30.2	3.0%	3.0%	Yes	4	97.16
Japan	*	0.1	0.0%	3.0%	Yes	6	96.73
Kingdom	0.6	4.5	0.4%	3.4%	Yes	9	95.70
Norway	1.2	9.4	0.9%	4.3%	Yes	11	94.32
Canada	0.9	7.3	0.7%	5.0%	Yes	14	91.46
Australia	0.2	1.6	0.2%	5.2%	Yes	17	90.46
New Zealand	*	0.1	0.0%	5.2%	Yes	19	89.09
Malaysia	0.6	4.3	0.4%	5.6%	Yes	28	78.63
Brunei	0.2	1.4	0.1%	5.7%	Yes	29	78.05
Abu Dhabi	11.9	92.2	9.1%	14.8%	Yes	34	73.56
Dubai & N. Emirates	0.8	5.9	0.6%	15.4%	Yes	34	73.56
Indonesia	0.8	5.8	0.6%	16.0%	Yes	35	73.32
Kuwait	13.3	96.5	9.6%	25.6%	No	36	71.64
Saudi Arabia	35.7	261.2	25.9%	51.5%	No	37	71.57
China	3.3	24.0	2.4%	53.9%	Partial	38	71.06
Qatar	0.5	3.7	0.4%	54.3%	Yes	42	68.07
Oman	0.7	4.8	0.5%	54.8%	Yes	43	64.38
India	0.8	5.8	0.6%	55.4%	Partial	45	63.61
Tunisia	0.1	0.4	0.1%	55.5%	Yes	47	61.95
Columbia	0.5	3.4	0.3%	55.8%	Yes	49	60.91
Mexico	7.3	50.8	5.0%	60.8%	No	57	57.06
Brazil	0.5	3.8	0.4%	61.2%	No	58	53.83
Argentina	0.3	2.2	0.2%	61.4%	Yes	61	52.14
Romania	0.2	1.6	0.2%	61.6%	Yes	64	50.41
Vietnam	0.1	0.5	0.0%	61.6%	Yes	69	49.21
Papua New Guinea	*	0.2	0.0%	61.6%	Yes	75	47.36
Egypt	0.5	3.3	0.3%	61.9%	Yes	77	45.86
Venezuela	9.3	64.5	6.4%	68.3%	Partial	79	45.17
Gabon	0.2	1.3	0.1%	68.4%	Yes	83	42.35
Ecuador	0.3	2.0	0.2%	68.6%	Yes	87	41.45
Peru	0.1	0.8	0.1%	68.7%	Yes	89	41.10
Iran	12.2	89.3	8.8%	77.5%	No	101	38.08
Algeria	1.2	9.2	0.9%	78.4%	Yes	107	35.55
Kazakhstan	0.7	5.3	0.5%	78.9%	Yes	108	34.97
Nigeria	2.4	17.9	1.8%	80.7%	Yes	125	30.33
Yemen	0.5	4.0	0.4%	81.1%	Yes	126	30.25
Syria	0.4	2.5	0.2%	81.3%	Yes	132	28.84
Russia	6.7	49.0	4.9%	86.2%	Yes	142	27.40
Libya	3.0	22.8	2.3%	88.5%	Yes	166	19.38
Angola	0.7	5.4	0.5%	89.0%	Yes	167	18.70
Azerbaijan	0.2	1.2	0.1%	89.1%	Yes	175	11.48
Iraq	13.4	100.0	9.9%	99.0%	No	180	5.84
Others	1.2	9.1	1.0%	100.0%			
Total World	137.3	1009.3	100.0%				

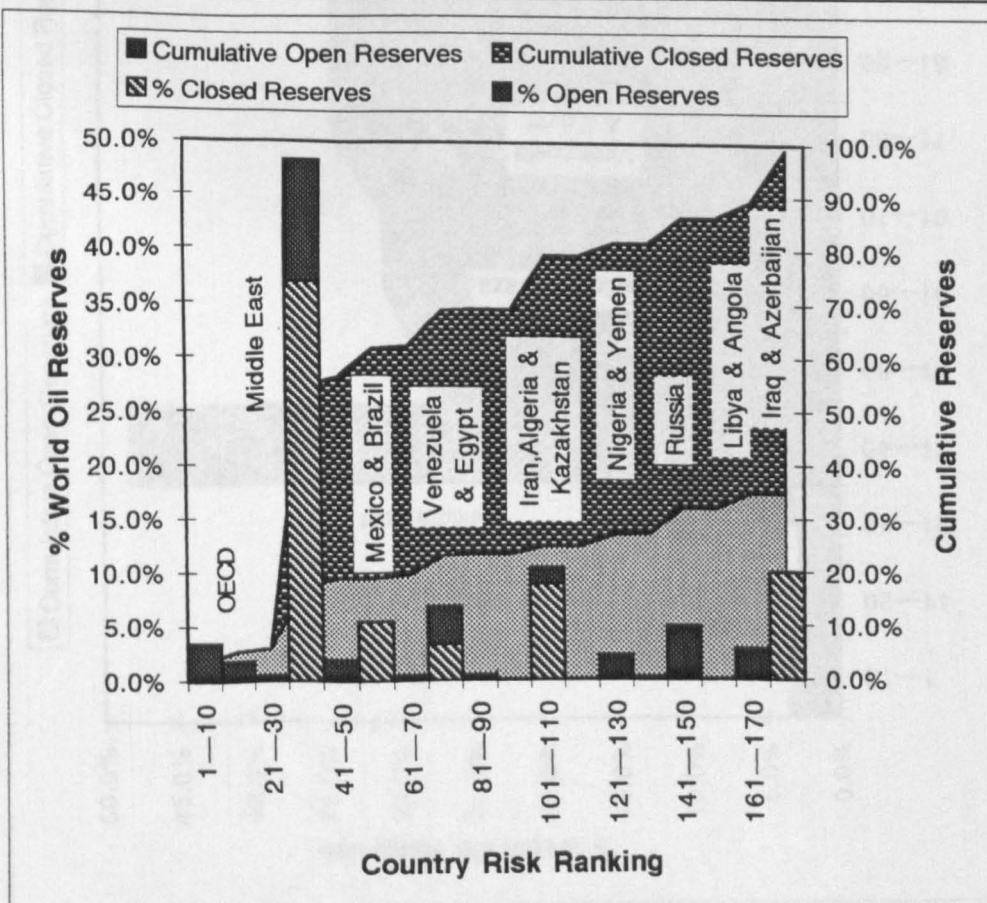
* Less than 0.05% of Total

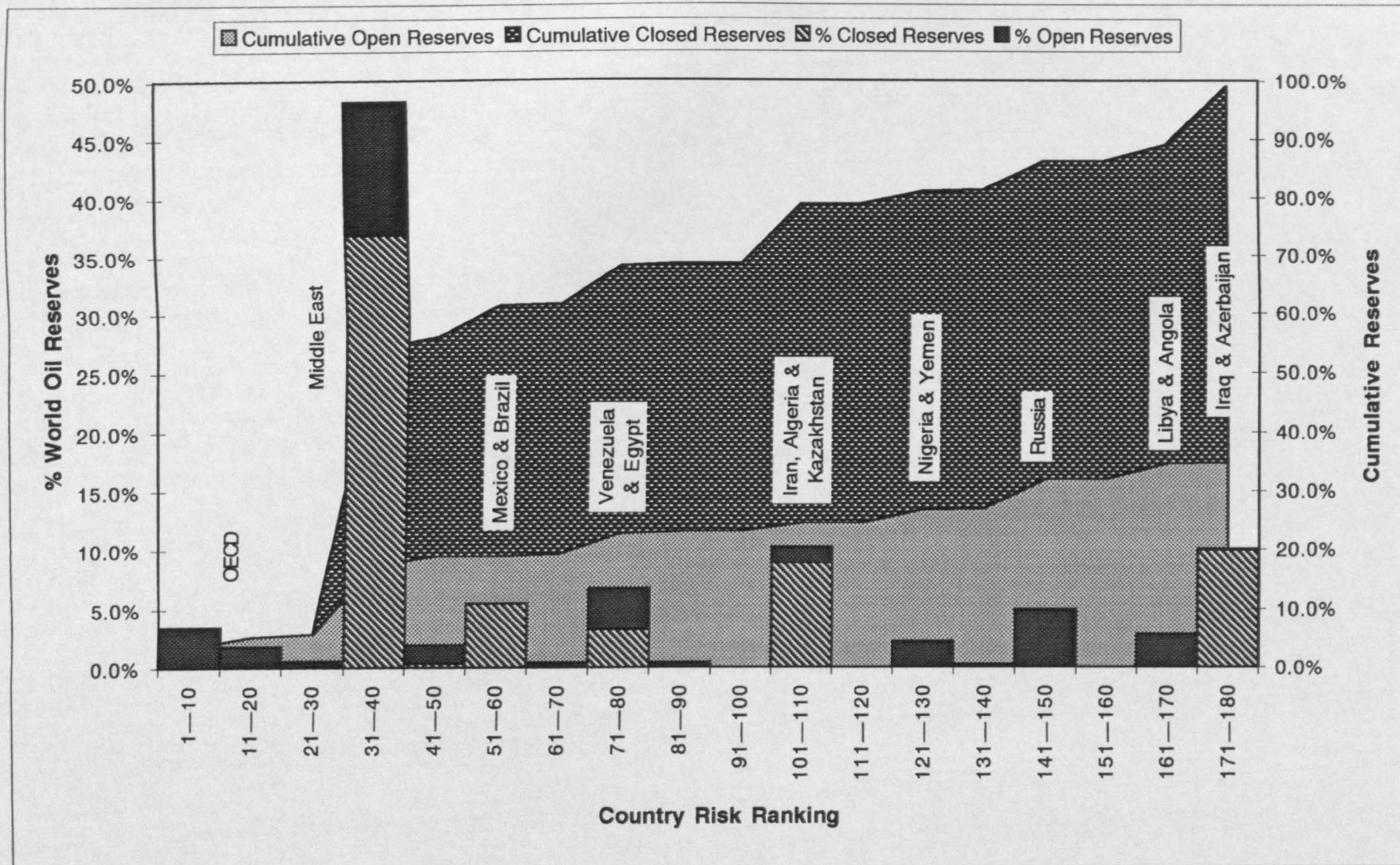
** For the purpose of calculating "Open" & "Closed" Reserves, a 50% factor is applied to the "Partial" Category

Source: BP Statistical Review of World Energy June 1995, p 18;

and "Country Risk Ranking," Euromoney, Sept. 1995, pp 307-310.

Country Grouping According to Risk Ranking	% Open Reserves	% Closed Reserves	Cumulative % Open Reserves	Cumulative % Closed Reserves
1—10	3.4%	0.0%	3.4%	0.0%
11—20	1.8%	0.0%	5.2%	0.0%
21—30	0.5%	0.0%	5.7%	0.0%
31—40	11.5%	36.7%	17.2%	36.7%
41—50	1.6%	0.3%	18.8%	37.0%
51—60	0.0%	5.4%	18.8%	42.4%
61—70	0.4%	0.0%	19.2%	42.4%
71—80	3.5%	3.2%	22.7%	45.6%
81—90	0.4%	0.0%	23.1%	45.6%
91—100	0.0%	0.0%	23.1%	45.6%
101—110	1.4%	8.8%	24.5%	54.4%
111—120	0.0%	0.0%	24.5%	54.4%
121—130	2.2%	0.0%	26.7%	54.4%
131—140	0.2%	0.0%	26.9%	54.4%
141—150	4.9%	0.0%	31.8%	54.4%
151—160	0.0%	0.0%	31.8%	54.4%
161—170	2.8%	0.0%	34.6%	54.4%
171—180	0.1%	9.9%	34.7%	64.3%
Total	34.7%	64.3%		





Political Risk Ranking of the World's Oil Reserves

Appendix F. Global Oil Production by Western Oil Companies

Countries	Production in 1995 (MMbopd)	Production in 1995 Percentage of World Total (%)	Cumulative Production in 1995 (%)	Portion of Country's Production By Western Companies (%)	Portion of Country's Production By Western Companies (MMbopd)	Access By IOCs
Abu Dhabi	1.832000	3.0%	3.0%	50%	0.916000	Yes
Algeria	0.764000	1.2%	4.2%	10%	0.076400	Yes
Angola	0.620983	1.0%	5.3%	100%	0.620983	Yes
Argentina	0.720736	1.2%	6.4%	100%	0.720736	Yes
Australia	0.506217	0.8%	7.3%	100%	0.506217	Yes
Azerbaijan	0.183000	0.3%	7.6%	5%	0.009150	Yes
Bahrain	0.039593	0.1%	7.6%	0%	0.000000	Yes
Belarus	0.390000	0.6%	8.3%	0%	0.000000	Yes
Bolivia	0.028371	0.0%	8.3%	24%	0.006809	Yes
Brazil	0.689120	1.1%	9.4%	0%	0.000000	No
Brunei	0.151494	0.2%	9.6%	100%	0.151494	Yes
Cameroon	0.102000	0.2%	9.8%	100%	0.102000	Yes
Canada	1.378951	2.3%	12.1%	100%	1.378951	Yes
China	2.983989	4.9%	16.9%	10%	0.298399	Yes
Columbia	0.574822	0.9%	17.9%	70%	0.402375	Yes
Congo	0.175000	0.3%	18.1%	100%	0.175000	Yes
Croatia	0.031325	0.1%	18.2%	0%	0.000000	Yes
Cuba	0.028000	0.0%	18.2%	0%	0.000000	Yes
Denmark	0.186000	0.3%	18.6%	100%	0.186000	Yes
Dubai & N. Emirates	0.322000	0.5%	19.1%	3%	0.009660	Yes
Ecuador	0.386714	0.6%	19.7%	30%	0.116014	Yes
Egypt	0.850702	1.4%	21.1%	90%	0.765632	Yes
France	0.049229	0.1%	21.2%	100%	0.049229	Yes
Gabon	0.364007	0.6%	21.8%	100%	0.364007	Yes
Germany	0.057537	0.1%	21.9%	100%	0.057537	Yes
Hungary	0.033948	0.1%	21.9%	0%	0.000000	Yes
India	0.673403	1.1%	23.0%	10%	0.067340	Yes
Indonesia	1.521469	2.5%	25.5%	95%	1.445396	Yes
Iran	3.612000	5.9%	31.4%	0%	0.000000	No
Iraq	0.600000	1.0%	32.4%	0%	0.000000	No
Italy	0.098650	0.2%	32.5%	100%	0.098650	Yes
Japan	0.014432	0.0%	32.6%	100%	0.014432	Yes
Kazakhstan	0.416000	0.7%	33.3%	14%	0.058240	Yes
Kuwait	1.792000	2.9%	36.2%	0%	0.000000	No
Libya	1.390000	2.3%	38.4%	17%	0.236300	Yes
Malaysia	0.650000	1.1%	39.5%	100%	0.650000	Yes
Mexico	2.722129	4.4%	44.0%	0%	0.000000	No
Netherlands	0.068784	0.1%	44.1%	100%	0.068784	Yes
New Zealand	0.033013	0.1%	44.1%	100%	0.033013	Yes
Nigeria	1.890000	3.1%	47.2%	100%	1.890000	Yes
Norway	2.713459	4.4%	51.6%	100%	2.713459	Yes
Oman	0.849000	1.4%	53.0%	100%	0.849000	Yes
Pakistan	0.054195	0.1%	53.1%	52%	0.028181	Yes
Papua New Guinea	0.099572	0.2%	53.3%	100%	0.099572	Yes
Peru	0.124001	0.2%	53.5%	50%	0.062001	Yes
Qatar	0.453997	0.7%	54.2%	9%	0.040860	Yes
Romania	0.138000	0.2%	54.4%	0%	0.000000	Yes
Russia	6.150000	10.0%	64.5%	5%	0.307500	Yes
Saudi Arabia*	8.274000	13.5%	78.0%	4%	0.330960	No
Serbia	0.020000	0.0%	78.0%	0%	0.000000	Yes
Sharjah	0.031450	0.1%	78.1%	100%	0.031450	Yes

Countries	Production in 1995 (MMbopd)	Production in 1995 Percentage of World Total (%)	Cumulative Production in 1995 (%)	Portion of Country's Production By Western Companies (%)	Portion of Country's Production By Western Companies (MMbopd)	Access By IOCs
Spain	0.013015	0.0%	78.1%	100%	0.013015	Yes
Syria	0.605000	1.0%	79.1%	57%	0.344850	Yes
Thailand	0.050898	0.1%	79.2%	98%	0.049880	Yes
Trinidad & Tobago	0.129315	0.2%	79.4%	45%	0.058192	Yes
Tunisia	0.087671	0.1%	79.5%	78%	0.068383	Yes
Turkey	0.067437	0.1%	79.6%	100%	0.067437	Yes
Turkmenistan	0.079000	0.1%	79.8%	10%	0.007900	Yes
United Kingdom	2.524376	4.1%	83.9%	100%	2.524376	Yes
Ukraine	0.080000	0.1%	84.0%	5%	0.004000	Yes
Uzbekistan	0.163000	0.3%	84.3%	0%	0.000000	Yes
USA	6.559615	10.7%	95.0%	100%	6.559615	Yes
Venezuela	2.378190	3.9%	98.9%	10%	0.237819	Yes
Vietnam	0.177000	0.3%	99.2%	0%	0.000000	Yes
Yemen	0.343679	0.6%	99.7%	100%	0.343679	Yes
Zaire	0.028000	0.0%	99.8%	75%	0.021000	
Others	0.098072	0.2%	99.9%	100%	0.098072	Yes
Total World	61.223560	100.0%			26.335949	

*Includes Neutral Zone

Source: "Worldwide Production," *Oil & Gas Journal*, 30 Dec. 1996, pp 42-73;

Approximate Contribution by Western IOC's = 43%

